THE JOURNAL OF THE
AMERICAN OSTEOPATHIC ASSOCIATION

VOL. IX NEW YORK, N. Y., APRIL, 1910 No. 8

The Osteopathic Lesion

CARL P. M'CONNELL, D. O., CHICAGO*

(This paper was prepared under the auspices of the Research Institution and by consent of the Council was read in New York, March 26, 1910, and by courtesy of the same authority it is presented to the readers of the Journal.)

[EDITOR'S NOTE: The following includes that portion of Dr. McConnell's lecture in New York, March 26, which deals with the immediate and local effect of the lesion upon spinal column tissues. The effect of the lesion upon viscus will be given in detail at the annual meeting of the A. O. A. in San Francisco and will include the data of several addional experiments.]

The object of this contribution is to outline what experimental data the writer has to offer in support of the validity of the osteopathic lesion. It is not a monograph or treatise of the many phases of this subject. Much collateral material, clinical and physiological, has been presented to the profession and more could be offered by many of its writers. For the past five years we have carried on a number of experiments comprising work on twenty-four dogs and six guinea pigs. These experiments were in strict accord with the commonly accepted definition of the osteopathic lesion: "Any structural perversion which by pressure produces or maintains functional disorder" (Hulett). In addition to this, we have accepted as basic physiological truths Dr. Still's dicta: The rule of the artery is supreme, and the living body contains all the attributes of a vital and physical mechanism. The purpose of the experiments was to determine, it possible, what actually occurs when structural relations are physiologically disturbed, and so maintained, by mechanical or traumatic means.

PRODUCTION OF THE LESION

The production of the lesion is a simple but still a very important matter. It can not be performed successfully in a haphazard manner. Strict attention to the thorough relaxation of tissues about the field of operation and definite application of mechanical principles are demanded. After selecting a healthy animal (a small or medium size dog is best), surgical anesthesia is instituted. Complete relaxation under anesthesia is necessary. Following this, further relaxation of the area of intended operation by traction is essential for ease of lesion production. Next, having determined the character of osteopathic lesion desired, that is, right or left rotation, or hyperextension, or

*I am specially indebted to my associate, Dr. Frank C. Farmer, for value aid and suggestions. He has done most of the dissection, which in itself requires unusual experience and skill.

hyperflexion, or combination of these the second essential is to apply definite mechanical principles. Bringing the fulcrum to bear at just the desired point when the tissues are thoroughly relaxed is as necessary in producing a lesion as in adjusting one. Much strength can be wasted if the leverage is not right; otherwise comparatively few pounds' exertion will accomplish the result. A simple way is to place the animal flat upon its belly, completely under surgical anesthesia, then while an assistant bears down with his thumbs upon the selected vertebra the operator grasps the animal by the rear legs and exerts traction in line with the spinal column until the spinal muscles thoroughly relax and stretch, then immediately, while still maintaining the traction, hyperextend and rotate the spine until the desired point is felt to give and slip. It is simply a question of applying the indicated mechanics. Various leverages may be utilized. Frequently we place a small block transversely under the animal, especially in producing rib lesions, in order to help separate the ribs as well as to secure a stable fulcrum.

The traumatism is not carried to a point whence tissues are torn or lacerated. The object is to obtain a slight slipping or maladjustment of the articular surfaces. If done correctly, that is, specifically, little force is required. The immediate noticeable results are malalignment of the vertebrae, malposition of the ribs corresponding to the deranged vertebrae, if the lesion is a dorsal one, and contraction of the spinal muscles of the same segments. These changes are readily palpated. After recovery from the anesthesia and during the ensuing time the above characteristics are evident with the added ones of tenderness and rigidity. Muscular contraction usually subsides, but not always, until only the deep spinal muscles are palpably contracted and these corresponding to the local lesion. In some cases the animal exhibits upon movement that the back is stiff and tender; others do not and shortly show no apparent ill effects. Later on a number present more or less systemic disturbances, depending upon the locality of the lesion. The periods of observation have ranged from three to eighty days, that is, the time from production of the lesion to autopsy.

DISSECTION OF THE LESION

Before the lesion is dissected a thorough autopsy is made in each instance and specimens secured of various organs and tissues whether they show any pathologic changes or not or correspond as to nerve function with the osteopathic lesion. The special reason for the microscopic study of so much material will be stated later.

The dissection of the lesion and the securing and fixing of the specimens is executed with much care. After a thorough examination of all the viscera and tissues with the exception of the brain is made, resection of six or eight vertebrae including the ribs and contiguous muscles, ligaments and nerves intact and in situ, is made; that is, the spinal column segments two to four vertebrae above and below the lesion are removed in order to facilitate careful and expeditious dissection and examination. At this point and up to the severance of the damaged constraining ligaments malformation and rigidity of the lesion is readily noted. Even the contractured muscles and parts of muscles do not relax. It is the deep contiguous muscles of the multifidous spinae that are most involved. The spinal muscles are carefully separated and removed as well as the nerve fibers supplying the same. Next, the sympathetic chains and their connecting fibers and rami are removed with as little traumatism as possible. Frequently small hemorrhagic points are detected in the sympathetic tissues corresponding to the lesion. Following this the ribs are removed and the intercostal nerve, artery and vein retained. In a few instances bundles of intercostal muscle fibers are

found contractured, and, also slight hemorrhages of the surrounding intercostal tissues are detected. After the spinal muscles, ribs, sympathetics and intercostal structures have been dissected and removed, abnormality and rigidity of the lesion do not seem to be specially impaired. The next step requires particular pains, separation and removal one by one of the six or eight vertebrae. Severances of the articular ligaments and dissection of the tissues intact passing through the intervertebral foramen requires considerable skill in order not to produce artifacts. Also, great care has to be taken in separating the spinal cord membranes from their suspensory ligaments and tissues.

In the lesion itself I fail to see where there is any perceptible partial occlusion of the spinal foramen by the encroaching bony tissues in the great majority of cases. Slight tension of the encased fibrous tissue anchoring the structures passing through the opening may readily occur. This in itself in one sense will act as an occluding factor. But careful microscopic examination does not reveal any greater damage to nerves or vessels here than at several other places, and the theory of pressure or inhibitory lesion per se at this particular area is untenable. Strain of the spinal column muscles alone, especially an unbalanced tension, will unquestionably produce a temporary lesion, but not often a permanent one. After a number of days' rest the muscles will, to a great extent, return to the normal unless there is a very active disturbing factor, such, for example, considerable inflammation. Even in those cases where there is marked contracture, complete removal of the muscles produces very little and at times no perceptible palpable change in the vertebral rigidity. This does not apply, however, to ribs, for removal of the intercostal muscles allows comparative freedom of the range of rib movement, owing to the relatively small articulating surfaces. Consequently, it is found that the permanent vertebral lesion is maintained by overstretched and damaged articular ligaments. Sever either the capsules of the articular processes or the ligaments of the vertebral bodies and considerable motion is immediately obtained. The ligaments of the articular processes are the ones most damaged. The intervertebral cartilage itself is usually only slightly damaged. The cartilages of the articular surfaces are commonly little involved. This last statement, however, applies to slight and moderate lesions. Naturally, in more severe injuries ankylosis occurs, which happened in two of the animals. These observations apply particularly to the dorsal and lumbar sections. The cervical region is different structurally; here, for example, larger and stronger muscles is an important determining factor. Uneven traction of cervical muscles followed by contracture can easily produce and maintain an osseous lesion. Finally, one other point in the lesion dissection is frequently noted, viz: hemorrhagic points along the fiber sheaths of the dorsal and ventral root bundles and within the membranes of the cord, notably between the pia and arachnoid.

THE MICROSCOPIC EXAMINATION

First, a word or two relative to the preservation of tissues. This is a most important part of the work. Too much care can not be given to the dissection. The tissues should be both gently and expeditiously handled. The least possible traumatism is demanded. Animal experimentation, in my opinion, is far preferable in the study of the osteopathic lesion than in the dissection of the human cadaver. In the former we have the unequalled opportunity of examining absolutely fresh and unchanged post mortem material. And in the dog the anatomical and physiological variations from the human are practically nil so far as important critical and dependable observation and study are considered.

The various well known fixing fluids are

used, such as alcohol, formalin, Muller's, Orth's, Flemming's etc.; selected according to the various tissues retained and the several staining methods to be attempted. As a special precaution, portions of the same specimen are fixed in more than one fluid and stained by more than one method. Then besides, as an additional "control," in order to reduce errors to a minimum, various normal specimens are passed through the same fluids and stains. As to the "control" features and the several technique methods more will be said later.

Naturally, the greatest interest centers in the microscopical findings of the nerves and blood vessels. The Marchi, Weigert-Pal, Williamson, and Nissl methods show without question that the nervous structures of the spinal cord, the spinal nerve roots and their branches, and the sympathetics corresponding to the lesion are pathologically involved; while nervous tissues of normal animals fixed, stained and mounted in the same material and at the same time show no change. Various cell groups in the gray matter are disturbed; some are more or less swollen, others partly atrophied, and a number normal (Williamson and Nissl's methods). Corresponding axone degeneration (beginning parenchymatous; Marchi, Donaggio and Weigert-Pal methods) is readily noted, and extending above and below the lesion. My studies of the cord have embraced only one, two or three segments above and below the lesion. These changes can readily be classed as primary degeneration, which means that the nerve cells are nutritionally disturbed. They are not as a rule very extensive or severe, but can readily be traced from the nerve centers in the cord and posterior root ganglion and sympathetics. In many instances they do not include the entire bundle of axones but one-third, one-half or two-thirds; in some an entire cable is degenerated. The posterior nerve roots are most affected, frequently all the fibers. The anterior roots are usually less involved, commonly bundles of fibers not the entire section. In cases where the lesion is more severe or the back is stiff for more than two vertebrae the neighboring spinal nerves are found more or less degenerated. I have not been able to clearly trace the degenerated paths in the cord (one reason being the paths in the dog are not so clearly defined as in the human). But two paths of degeneration are readily noted, viz: fibers in the posterior column and bundles of fibers from the anterior horn. The degenerated fibers in the sympathetics appear to be largely those of the vasomotors (fine medullated groups; Marchi method), but this is a difficult point to positively decide. These early changes are as a rule a simple beginning primary parenchymatous involvement, and no doubt are amenable to osteopathic treatment in most cases and will recover when the disturbed nutrition is rectified. (See cuts).

The changes found in the blood vessels is a highly interesting and elucidating study. The coats of arterioles, capillaries, veins and in some instances the arteries, are found deranged from the endothelial cells through the muscle fibers and the outer layer into the surrounding tissue. And in the walls through and into the surrounding tissues are found in variable quantities blood corpuscles enmeshed. From an escape of blood plasma to diapedesis, leucocytal invasion and hemorrhagic foci the pathologic picture is evident. The change is not an intensely destructive one or one beyond a possibility of repair. The entire transverse wall is not as a rule involved, only a portion. In a number of the small arteries there is a well defined endarteritis. The involvement is a hyperemic one, in all probability dependent upon vessel relaxation and atony followed by plasma leakage between endothelial cells and escape of corpuscles. This distortion in localized areas of the vessel's wall structures is undoubtedly pathologic, due to the varying diapedetic activity. It is specially interesting to note that the greatest diapedesis, so far as nervous tissue de-

struction is concerned, occurs about and through the ganglionic regions of spinal cord, posterior root ganglion and sympathetics. This vessel disturbance always largely corresponds to the osteopathic lesion so far as the involved spinal foramen (both sides) and the injured ligaments and muscles are concerned. In many of the dissections the nerves, vessels and connective tissue of the spinal foramen are removed intact, likewise the sympathetics and the tissues of the back, so that a thorough and comprehensive picture is thereby secured. The rich nerve and vessel supply to and through the fascia is an interesting study in itself. All of the pathologic changes do not correspond absolutely to the osteopathic lesion, but the changes above and below are much less marked, and undoubtedly are due to either extension of the traumatic lesion or to related nerve paths. In those cases where the mechanical injury is not entirely confined to a single articulation pathologic involvement elsewhere, is noted corresponding to location and degree of initial damage. Then, of course, as stated, there are the ramifications of fibers above and below the segment that should be remembered. The disturbances to the vessels of the sympathetic seem to be just as well marked, but it is to be noted they are less severe in the adjacent segments above and below. The extension of this vasomotor affection to nervously related viscera, for examples, the stomach and kidneys, is frequently detected; but visceral lesions will demand another article. There can be no question experimentally, as is well known clinically, that the osteopathic lesion is an important etiologic factor in visceral perversions.

The hyperemia in the spinal cord is pronounced, especially in the gray matter. Throughout the posterior horns and the tips and mesial sides of the anterior horns are the areas most disturbed but not by any means exclusively. The circulatory changes vary in different cell groups. This ischaemia is greatest in the corresponding segment and gradually lessens to a segment, sometimes two, above and below the lesion. Congestion with more or less diapedesis of the anterior and posterior spinal cord vessels is readily noted. In the majority of cases the posterior vessels apparently suffer the more, the same as the posterior nerve fibers. The additional strain to the anchorage and connective tissues in the spinal foramen may partly account for this; it may be partly due to peculiarities of vessel distribution and termnaton, and to the fact that the spinal veins have no valves. Anticipating for a moment, a portion of the theoretical conclusion, for the sake of emphasis, it would appear that the damage, inceptively and primarily, would be due to the blockage of the afferent sensory impulses of the joint structure and encompassing tissues, followed by reflex segmental disturbance to the efferent vaso-motor, motor and other fibers. In this connection it would be interesting to know the relative severity of nerve cell and fiber change due to a dsordered viscus affecting reflexly the viscero-sensory and viscero-motor reflexes. Hyperesthesia and muscular contraction of the spinal tissues arising from viscus disturbance is a frequent observation, and we profit clinically by these symptoms. Severance of the afferent fibers from viscus to cord and a histological study of its effects would probably instruct us considerably.

These changes, as stated, are detected in varying degree in nearly all the arterioles, capillaries, and veins. But in the tissues above and below the lesion there is marked diminution in both degree and number of vessels involved. Various well known methods are employed such as Orth's fluid, formalin, alcohol, etc., with hematoxylin and eosin or congo red, and the Marchi methods with, at times, an additional lithium carmine stain. At the same time, invariably, normal tissues are run through the same fluids as a check. These lesions are acute pathologic disturbances and not chronic ante mortem disorders due to other causes, or post mortem changes or artifacts.

The microscopic muscular changes are

clear and well defined. The contracture is due to an interstitial myositis, wherein is easily seen increase of connective tissue and atrophy of the muscle fibers. It should be remembered that more or less initial muscular contraction subsides after two or three days, and that contractures do not as a rule embrace all of the muscle fibers but certain groups. The deepest layers, those when contractured giving the sensation of a whip cord on palpation, are mostly involved. Sometimes only one side is affected. The nerve to these fibers is found degenerated as well as the related arterioles and veins. The nerve degeneration is due to the nutritionally disordered cells of the anterior horn. I do not believe the muscle disease is due to direct traumatism, for certain it is that many of them are not factors in maintaining the lesion. This statement should not be misinterpreted clinically, for unquestionably muscular contraction and general muscular tone is a factor to be reckoned with in both producing and adjusting a lesion.

It is the ligaments that maintain a lesion of the chronic type. The injury here is considerable; not necessarily in the sense of lacerations and general exudative sequelae. But the ligaments are strained and stretched and more or less hyperplasia follows. Proliferative changes and thickening are observed. Arthritis involving the cartilages of the articular processes is not the rule. The nerve fibers to the joint structures are more or less degenerated. In most instances the cartilages of the articular processes are normal as well as the intervertebral disc. But the ligaments enclosing the former suffer more than those of the latter. The osseous tissue is histologically normal.

Here a word of caution may be justified. In this study of the lesion an attempt has been made to determine just what the lesion is, that is, the initial pathologic changes—not its many possibilities and variations. There must be definite general underlying principles. Our aim has been to seek these rather than to cover the field of pathology with in its many varying phases.*

THE CONTROL

I am well aware that in most experimental work an important part is the so-called control. From the very nature of this work control animals would be useless. The work parallels surgical experimentation so far as many of the principles are concerned. Care has been taken in the selection of suitable material. Normal animals have been dissected and the tissues microscopically examined. Almost invariably specimens of the several viscera not physiologically connected with the lesion have been reserved; normal nervous and vascular tissues above and below the lesion, even from distant parts, as a leg, have been retained; and all passed through the several processes with and at the same time as the pathologic specimens were fixed, stained and mounted. This in itself, to me, has been a very important control. The tissues were marked and detail notes made. The dissection was unusually careful, and with such accessible tissues as the sympathetics and spinal intercostal fibers there is no occasion for any damage being done. From the living tissue to the fixing fluid no other method offers such a minimum of time for post mortem changes. The pathologic changes are unquestionably ante mortem, not post mortem or artifacts. They are acute changes, not chronic ones. The changes correspond to the osteopathic lesion, and this was shown by a variety of technical methods. Finally, clinical data bear us out. Prob-

* To attempt fine discriminations in the pathologic histology would be hazardous, especially with a comparative few observations on dogs and wherein the cell groups and nerve paths in the spinal cord are not so clear cut as in the maize of the not thoroughly understood human. The separation of the several groups of cells in both the ventral and dorsal horns varying in function, staining qualities and blood supply; the five different periods of myelination of the dorsal roots and dorsal columns alone, showing differences of function, are two striking examples of the present futility of such an undertaking. We can concern ourselves only with general pathologic processes. when we have amassed the material of several workers, then finer results may be presented.

ably sections of certain nerve fibers (other than has already been done) contiguous to the spinal structures would reveal some interesting data, but this requires a high degree of surgical skill, and, moreover, a thoroughly trained physiologist can do it better and we have access to their contributions.

CONCLUSION

In conclusion, the following points are submitted bearing upon the theoretical and practical interpretation of the osteopathic lesion. It seems logical in view of the above facts, that the explanation of the lesion rests upon something more than mere pressure of maladjusted tissue upon nerve fiber or vascular channel; this at best can be only a part of the pathological process. In the first place there is a physiological disturbance of the muscular, fascial, ligamentous, and osseous tissues which causes interference with the normal afferent influences to the spinal cord centers, and this is more or less permanently maintained by the lack of freedom of the normal joint movements. This obstruction of normal afferent stimuli is only the initial step for disturbance of innervation through the mechanically changed relationship of the structures, physiology teaches us, initiates a corresponding and dependent change in the spinal cord segment. The immediate contraction of the muscles, for example, and their maintenance show this to be the case. Such interference with the ever constant nerve force must necessarily disturb related physiological functioning and as a consequence the subsidiary vaso-motor centers, with others, are affected. Mere inhibition of part of the nerve current causing resultant disorder of certain reflex-arcs would probably affect nutrition. But we find vessel relaxation and congestion a prominent feature. The arterioles, capillaries, and veins are pathologically affected by the disturbed innervation. The blood stream is slowed, the endothelial tissue compromised and plasma exudation takes place. This is followed by diapedesis even to the frequent extent of hemorrhagic foci, especially in and about the nerve centers of the cord and ganglia; and thus nutrition of the local parts is jeopardized. This, then, means that the nutritional centers, the ganglia, will not receive their full quota of nourishment, and, thus, the integrity of the neurone is impaired and primary parenchymatous degeneration follows. This, I believe, is the explanation, or at least an important part, of the pathologic inception of the osteopathic lesion. Many factors may eventually be important contributing features, for example, toxins, but our special purpose here has been, if possible, to offer an initial working basis.

Neither macroscopic nor microscopic findings in the tissues passing through the spinal foramen warrant the assumption that the osteopathic lesion is the result of mechanical pressure per se in this region. No doubt strains and tension of the fibrous and connective tissue here, as elsewhere (and possibly even more so owing to the firm anchorage of the tissues) would have its effect upon nerve impulses and vascular channels, but the histological findings are no more pronounced here than in other structures. There is nothing in the examination to conclude that the foramen is distinctly lessened in diameter so that it encroaches upon the conducting organs or that there is distinct pressure upon artery, vein or nerve. The morbid histology is the same here as in the corresponding parts. Naturally, it would take but little strain to disturb nerve currents, but it is in the ganglia that the greatest vascular change occurs, not along the conducting fibers. Loss of vaso-motor tone, locally, even to the point of diapedesis, may occur from mechanical means or trauma remote from a center, still it seems to me that the phenomena of the osteopathic lesion, clinically and pathologically, point distinctly to a central or focal irritation (cord); and, moreover, the changes in the spinal nerve, artery and vein would

be localized in character, resultant changes would be different, and less systemic and less evenly distributed pathologic involvement if the lesion were primarily a blockage at some point within the spinal foramen. And, moreover, the degeneration is not Wallerian after the manner of a distal end separated from its center. Two or three anatomical features stand out prominently in the dissection of the spinal column tissues, viz: the close contact of the spinal nerve, artery and vein to the superior border of the rib and their firm anchorage within the foramen, clearly exhibiting how easily a maladjusted vertebra or rib may disturb these tissues; the fairly loose anchorage of the sympathetics, by the parietal layer of the pleura, along and near the head of the ribs, also suggesting that rib lesions may disturb sympathetic integrity. However, at best, from my observations, pathologic changes here can be only a part of the entire morbid picture.

In the large majority of cases only a portion of the cells are affected; likewise the axones. Segments of the cord, as is well known, are neither histologically nor physiologically isolated so to speak; neither is the osteopathic lesion a complete severance organically or functionally of a certain segment. Certain paths are more disturbed than others; and from all indications the entire neurone suffers, thus pointing, nutritionally, to a central effect, with a corresponding disturbance to the subsidiary and collateral neurones. This accounts for the pathologic changes in nearby segments and ganglia, and, indeed, for the effect upon related viscera. No doubt the majority of these early changes are amenable to treatment, for the degeneration has not often gone beyond a stage of repair. Many lesions, if not all, unquestionably lower the amount of vitality a related tissue or organ should receive, and, thus are important predisposing etiologic factors.

Nervous tissue, particularly the ganglia from the cord to the sympathetics, and the connective tissue, are richly supplied with blood. This point can not be too greatly emphasized. Osteopathically, the greatest disturbance seems to be in these nerve centers. Owing to the sensitiveness of nerve cells to circulatory changes it is a slight step from functional impairment to organic disease. When such occurs it is only another short step to viscero-motor impairment. The same lesion, apparently, may affect the tissues differently, that is, as to precise locality; although all lesions affect the tissue more or less the same pathologically. Physiologically and clinically we know, owing to the neurone morphology, that certain paths are related anatomically and physiologically to different segments; likewise tissues and viscera to different segments. Practically, a thorough relaxed structure and specificity are conducive to either production or correction of the osteopathic lesion.

This article is an outgrowth of our previous studies as presented in the A. O. A. JOURNAL of September and December, 1905, and May and August, 1906, supplemented with many additional experiments. A list of references was appended to the above articles. In this particular contribution the following works were, in addition, specially helpful: the pathologies of Thoma, Schmaus, Adami and Hamilton; Burns's osteopathic writings; Quain's (eleventh edition) and Santee's anatomies; Morat's and Howell's physiologies; Szymonowicz's histology; Williamson's spinal cord diseases; Bevan Lewis's article in Allbutt's System; J. Mackenzie, Symptoms and Their Interpretation.

The following photomicrographs, giving greater detail of which the foregoing is largely introductory, are submitted. The figures represent various tissues between the second cervical and thirteenth dorsal. Nearly all are from lesions of one to four weeks standing as it has been the writer's purpose to study mainly early changes. The photographic work was done by Mr. F. T. Harmon, Chicago.

57 WASHINGTON ST.

PLATE I.

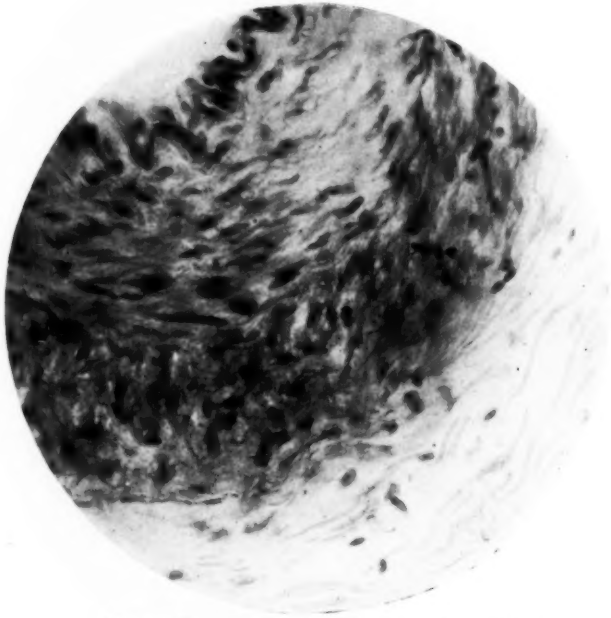


Fig. 1. Transverse section of a normal small artery of a sympathetic ganglion. Intima is at the upper border. Note the almost perfect arrangement of the tissues, compare with next figure. Lithium carmine. X 325.

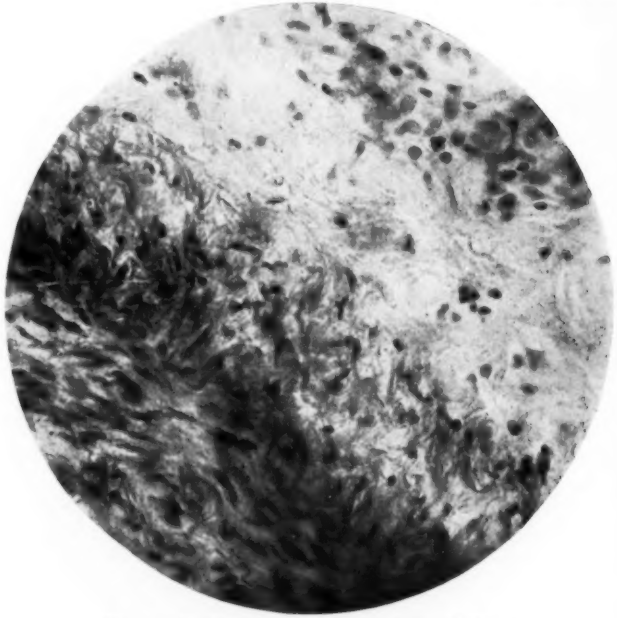


Fig. 2. Another view of the same sympathetic vessel as above at a point nearly diametrically opposite. The intima is downward to the left; the edge can not be seen. This picture with the above is introduced to show the very beginning of the plasma exudate followed by blood corpuscles. The cells in the upper right are blood, and by close observance the structures between this and the inner vessel are seen distorted due to the plasma exudate. This, of course, shows only a very small part of the actual condition. Lithium carmine. X 325.

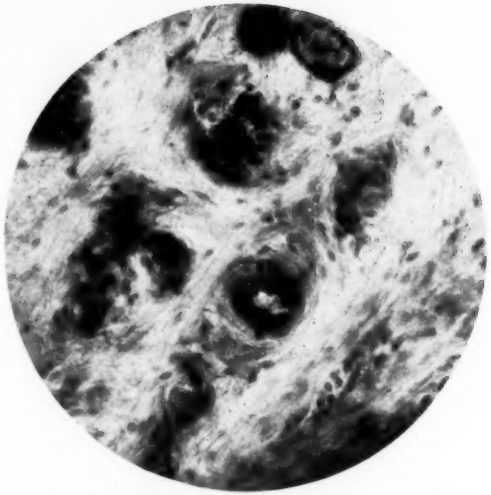


Fig. 3. Hemorrhagic congestion of the arterioles in the tissue surrounding the sympthetic ganglion; also, note the endarteritis. Marchi with lithium carmine. X 210.

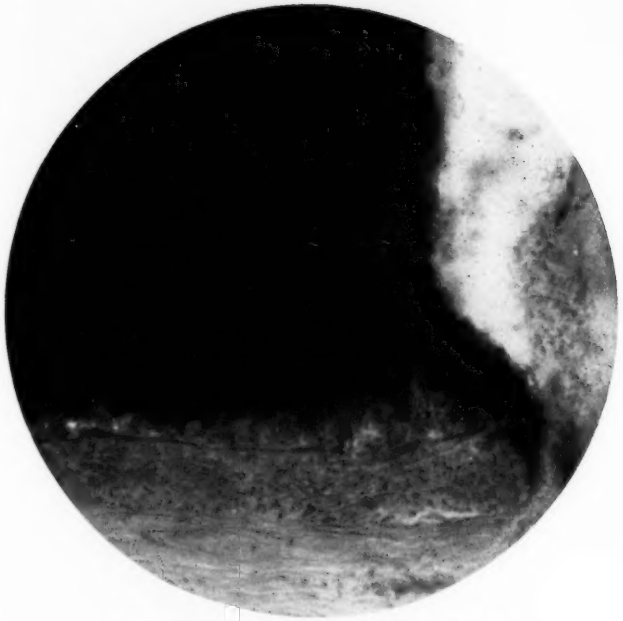


Fig. 4. Moderate size intercostal vein showing marked congestion followed by beginning hemorrhage. The vessel is cut longitudinally. Wall shown in lower part with hemorrhage into and through same. Lithium carmine. X 160.

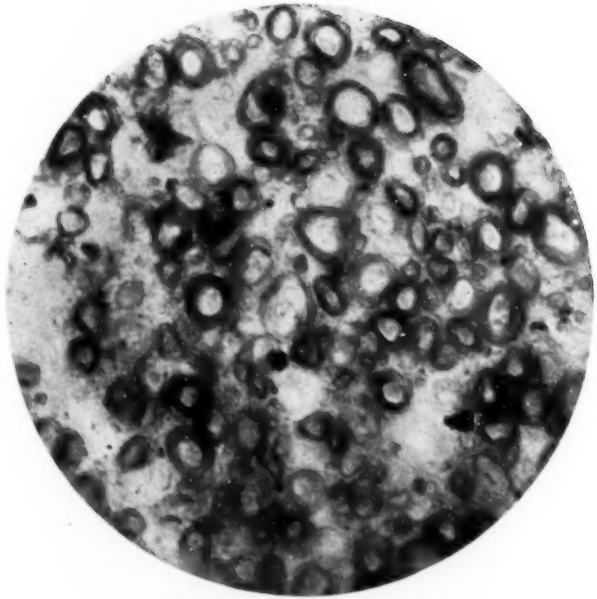


Fig. 5. Normal nerve fibers of the spinal cord (posterior column). Marchi. X 400.

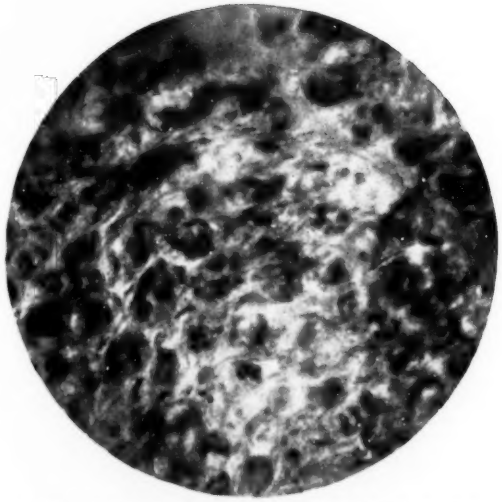


Fig. 6. Transverse section of nerve fibers in the posterior column. Beginning parenchymatous degeneration. The medullary sheaths are largely broken down. Marchi. X 350.

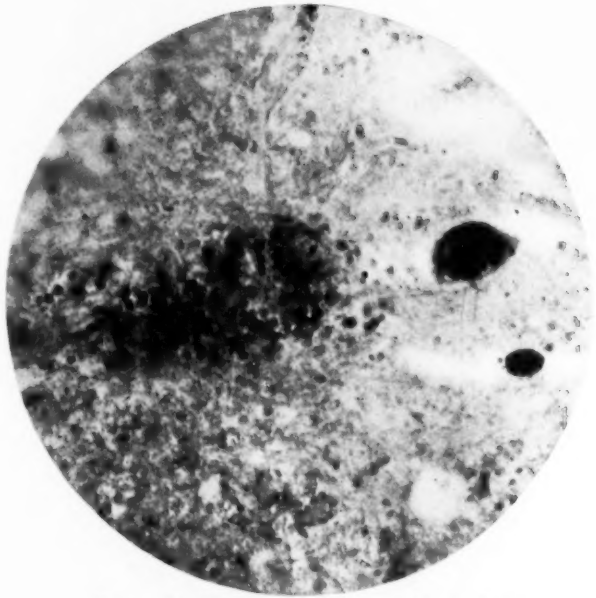


Fig. 7. Diapedesis in posterior horn midway of base and tip. The two dark spots are engorged and dilated veins. The mass of blood corpuscles to the left are from the larger vessel. This is only one hemorrhagic spot of several in this specimen, some larger and others smaller, scattered throughout the gray matter. Marchi. X 325.

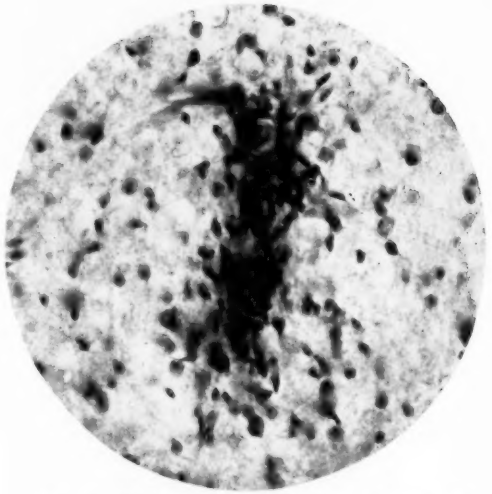


Fig. 8. Diapedesis from vessels near the tip of the anterior horn. There were several of these areas throughout the anterior horns. Lithium carmine. X 325.

Fig. 9. Portion of a longitudinal section of a congested vein in the middle portion of the posterior horn. There are points of slight diapedesis. This is only one of several congested areas in this particular section. Williamson. X 325.

Fig. 10. Nerve cells, axis cylinders and vessels of the tip of the posterior horn. This specimen shows only slight involvement. Compare with next figure. Williamson. X 120.

Fig. 11. Area near the tip of the posterior horn. Same animal as figure above, but different cell group. Note the beginning degeneration of the nerve cells, the pericellular space, the swollen axis cylinders, the several hyperemic vessels, and the cell infiltration. Other groups were found still more disturbed, some less so, while a few are normal. It does not seem there can be any question but such lesions are important sites for further pathologic involvement. Williamson. X 120.

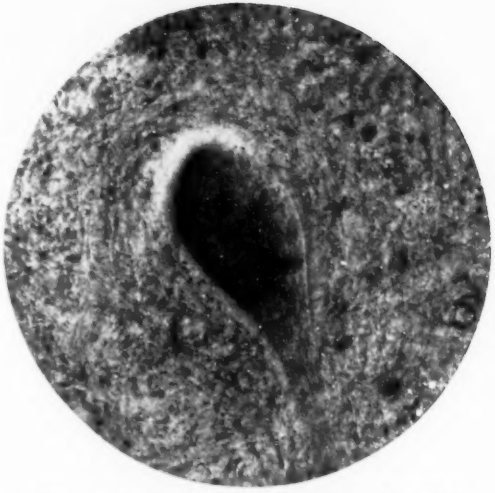


Fig. 12. A normal cell from the posterior horn of the spinal cord. Note the Nissl granules. Nissl; Gothard, Luithlen and Sorgo's modification. X 600.

Fig. 13. Degenerated cells from the anterior horn of the spinal cord. The upper cell shows chromatolysis: the cytoplasm is swollen and the nucleus has moved toward the periphery. The lower is in a stage of atrophy. In the upper right and left periphery of the cut are seen two hemorrhagic areas due to venous hyperremia. Nissl; Gothard, Luithlen and Sorgo's modification. X 600.

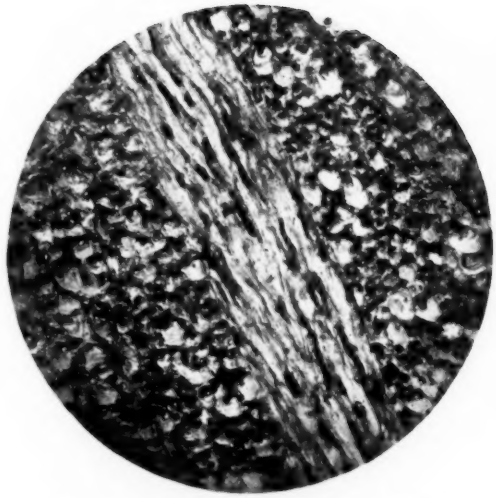


Fig. 14. A bundle of degenerated nerve fibers from the anterior horn. It should be remembered these cuts are from different animals, not from the same one, unless stated; also, all experiments showed similar pathologic changes to greater or less extent. Weigert Pal. X 210.

Fig. 15. Beginning parenchymatous degeneration of medullated axones of the anterior spinal nerve near the cord. Marchi. X 350.

Fig. 16. Section through the posterior ganglion. Hemorrhage from vessels in the upper part; also, lower middle. Degeneration of the medullary sheaths of the fibers cut transversely, near the center, is readily observed. It is probably but a short step, when tissues are thus vascularly disturbed, from parenchymatous degeneration to the more active and marked secondary parenchymatous degeneration. Marchi with lithium carmine. X 210.

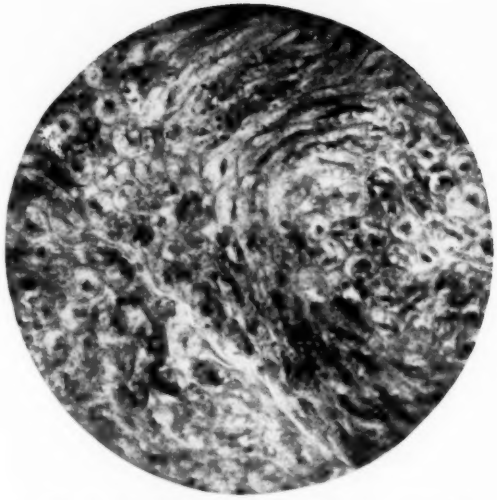


Fig. 17. Beginning parenchymatous degeneration of the medullated fibers of a section near the posterior root ganglion. Some of the fibers are cut transversely; others longitudinally. Marchi. X 350.

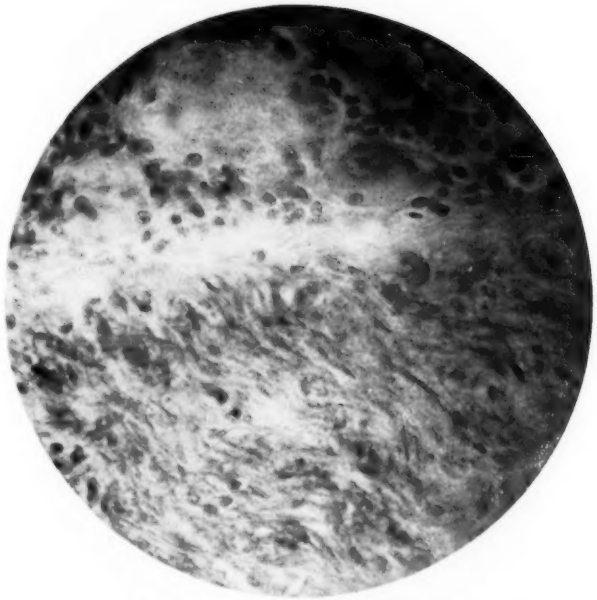


Fig. 18. Posterior spinal ganglion. Degenerated nerve fibers in lower two-thirds of cut. The upper part is tissue surrounding ganglion, showing diapedesis. A few corpuscles are seen entering the nervous structure. Donaggio, method III (Hall and Herxheimer). X 400.

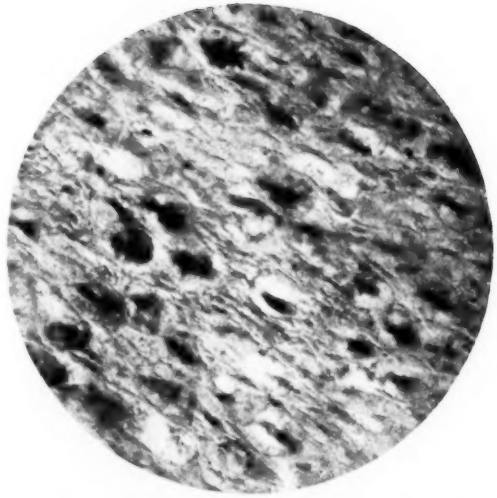


Fig. 19. Degenerated nerve fibers just after leaving the posterior spinal ganglion (from same section as the preceding). Donaggio. X 400.

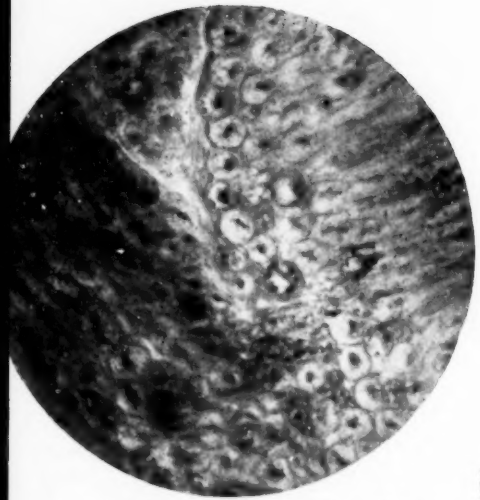


Fig. 20. Section from the nerve branch supplying the back muscles. A group of these nerve fib.rs are normal; others are degenerated. Marchi. X 350.

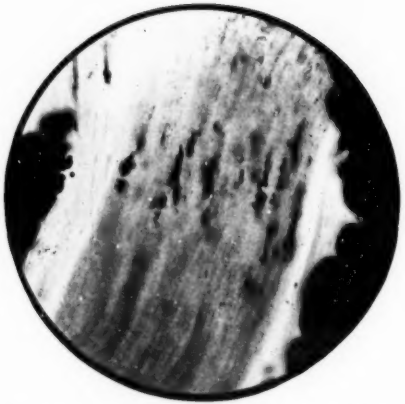


Fig. 21. A longitudinal section of a spinal nerve. Considerable degeneration has taken place as evidenced by the small black spots—parenchymatous degeneration. The large black areas to the side of the nerve cable is fatty tissue stained by the osmic acid. Marchi. X 160.

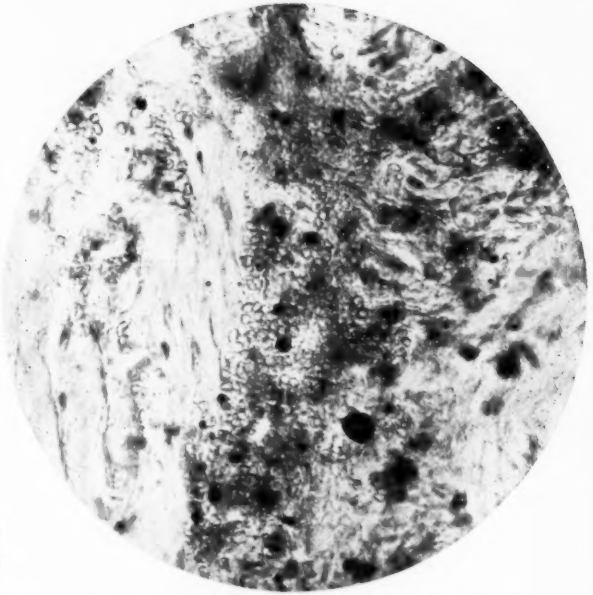


Fig. 22. Diapedesis and leucocytal invasion into the sympathetic ganglion. A number of degenerated medullated fibers are seen. Most of the fibers are not medullated. From same section as Figure 3. Marchi with lithium carmine. X 325.

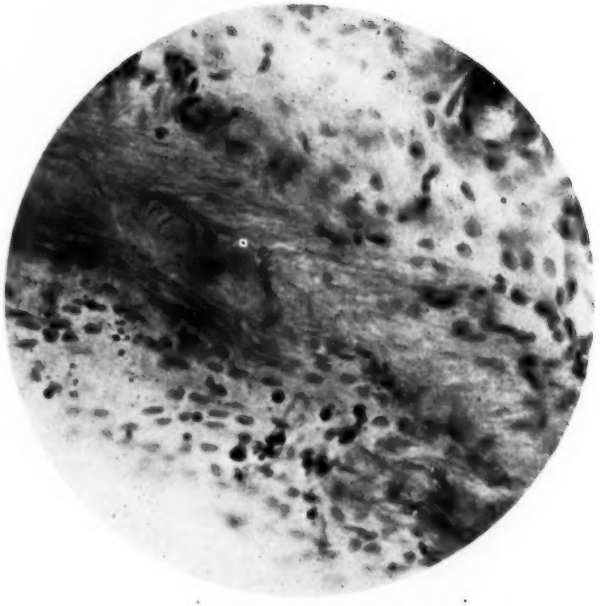


Fig. 23. Another view of the sympathetic with diapedesis throughout the surrounding tisuue. Williamson. X 325.

Fig. 24. Section through the capsular ligament of an articular process. The large dark areas are vascular. Congestion and hyperplasia. Owing to the damage of these ligaments the chronic lesion is not only largely maintained, but injury here coupled with the muscular, fascial and osseous perversions is the initial step in the pathology of the osteopathic lesion, that is, wherein the nervous impulses are first disturbed. Lesions of even same character, vary; dependent upon tone, strength, relaxation, leverage. Hematoxylin and congo red. X 100.

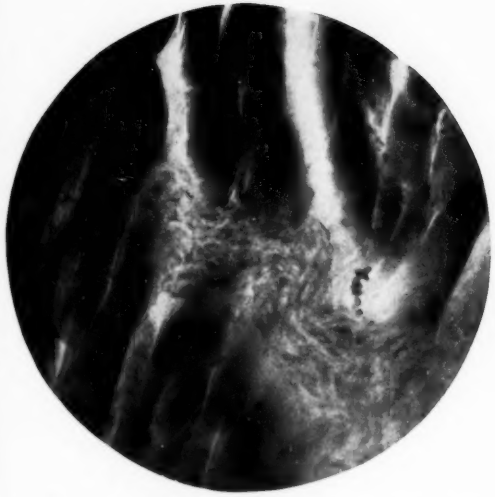


Fig. 25. Contractured muscle of the multifidous spinae. The increased connective tissue is specially noticeable. Hematoxylin and eosin. X 350.

Fig. 26. Contractured muscle of the multifidous spinae. Infiltration, proliferation of nuclei, and atrophy. Hematoxylin and eosin. X 350.

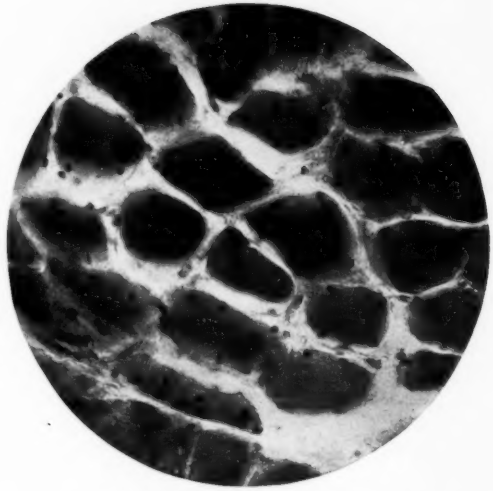


Fig. 27. Contractured muscle of the multifidous spinae. Increase of connective tissue, proliferation of nuclei, and atrophy. The above three specimens of interstitial myositis are from different animals. Hematoxylin and congo red. X 210.

The Action of Poisons and Indication of Antidote

FRANK M. VAUGHN, D. O., BOSTON, MASS.

(Read before the Maine Osteopathic Society, March 26, 1910)

"The improver of natural knowledge absolutely refuses to acknowledge authority, as such. For him, skepticism is the highest of duties; blind faith the one unpardonable sin. And it cannot be otherwise, for every great advance in natural knowledge has involved the absolute rejection of authority, the cherishing of the keenest skepticism, the annihilation of the spirit of blind faith; and the most ardent votary of science holds his firmest convictions, not because the men he most venerates holds them; not because their verity is testified by portents and wonders; but because his experience teaches him that when ever he chooses to bring these convictions into contact with their primary source, nature—whenever he sees fit to test them, by appealing to experiment and to observation—nature will confirm them. The man of science has learned to believe in justification, not by faith, but by verification."

THOMAS HENRY HUXLEY.

"Of course, in cases of poisoning the proper antidote should be administered." I find this thought occasionally expressed in our professional literature—let us see if it will bear enlarging. A poison is not an easy thing to define; perhaps it is better to give a broad definition, and then limit our discussion to a certain branch of poisons. A poison is any substance that tends to disturb structure or function of the living organism.

The study of poisons can, with a few exceptions, be limited to those that are soluble or tend to become soluble in the body fluids. For instance, broken glass in the body is certainly a poison in the broad sense, but as it is an insoluble poison,—its removal is best considered under the subject of surgery. On the other hand, the stings of reptiles and insects, although productive of soluble poisons, is a subject by itself and is best so considered. Most of the soluble substances in the animal, mineral, and vegetable kingdoms if introduced into the body in sufficient quantity will tend to disturb and destroy it, so we will naturally limit our discussion to those substances that produce trouble when used in comparatively small quantities. Their effects may be local or remote, but if remote absorption is usually the cause. The practical consideration of Toxicology brings us at once to the subject of antidotes. If we classify poisons according to their effects we have four groups, as follows,—caustic poisons, those tending to cause gross anatomical changes; blood poisons, cerebro-spinal poisons and heart poisons. From this classification we can see at a glance that the methods of procedure must not be the same for all poisons. The general rule is of course that where a poison has been taken into the stomach it should be immediately emptied by emesis, but in cases where the poison is of a destructive nature, if gastric lavage can be instituted at once it may be much more advisable, as vomiting might rupture an already weakened esophagus or gastric wall. Gastric lavage should properly come second in all cases where the poison is taken into the stomach, the chemical antidote can best be introduced in this way and the excess of all material removed. Even when poisons are taken hypodermically, lavage is still indicated, as the stomach seems to be the special organ to which poisons are brought for elimination.

Bowel elimination should be made as perfect as possible by enemas, which can be made the vehicle for antidotes if necessary. If normal salt solution is used, care should be taken to avoid it where sodium chloride would increase the solubility of the poison in question. The urinary tract, the lungs and the skin still remain to be considered. The particularly soluble poisons are found in the urine almost immediately; this calls for prompt and frequent bladder evacuation.

The lungs have an especial office to perform; where the poison is a gas the

lungs are practically the only means of elimination, but also in blood-poisons where there has been destruction of haemoglobin, or a combination with the poison, there is of course a diminished number of oxygen carriers; in these cases it is especially necessary to maintain active respiration. The skin tends to eliminate the same class of substances as the kidney, hot baths or packs tend to assist diaphoresis materially.

In all cases of poisoning where the poisonous agent is not so powerful as to produce immediate death, there is a certain amount of resistance set up by the body which tends to reduce the danger. This physiological activity which results in cases of poisoning is well worth very careful study; the body has many ways of protecting itself both chemically and mechanically. Some of these means are as follows:

1—By dilution, poisons tend to excite hyper-secretion of all membranes they come into contact with, thus diluting, to some extent, the irritating agent. All caustic poisons would be affected in this manner.

2—By expulsion of the poison without chemical alteration. Usually there is activity proportionate to the amount of the poison taken to expel it immediately. Under this head comes primary emesis (secondary emesis is due to reflex nerve spasm), primary purging, diuresis; extra glandular secretion, the action of the lungs and the skin. The body also has the ability to react chemically toward poisons. Many important chemical changes occur in the liver; the stomach seems to especially refer metallic poisons directly to the liver, where they tend to be rendered inert (by the formation of insoluble albuminates) or comparatively harmless, by reaction with bile acids and salts which are thus made relatively less soluble. Phagocytosis plays an important part as an antidote, the poisonous salts of iron and silver are rendered more or less inert by the chemical activity of these cells. Poisonous acids are neutralized to some extent by the alkalinity of the saliva of the blood and of the intestinal tract; while alkalies tend to be offset by the acid of the stomach. In addition to neutralization, other processes occurring are Oxidation, as in phosphorous poisoning to form phosphates. Reduction, as in the formation of iodides and chlorides from iodates and chlorates which are relatively more poisonous: Synthesis, this occurs especially in ammonia poisoning where urea is formed and excreted in excess.

By thus taking into consideration the ways and means the body takes to rid itself of poisons, we can best construct our methods toward the same end. This is a comparatively new field in toxicology, and data from this point of view is all too scanty; we can find volume after volume devoted to the study of poisonous agents and detailed description of their effects on animal life. What we really need now is a better understanding of the ability of the living body. The body seems at times to possess untold amounts of resistance; to illustrate I will present the following treatment which was given for a case of aconite poisoning in which nearly an ounce of the tincture was taken.

*Hypodermically:
Morphine ½ grain.
Fluid Ext. Digitatis 6 drops.
Strychnin Sulphate 1-100 grain.
Brandy 1 ounce.

By mouth: 1.
Warm water 2 gallons.
Fluid Extract of Digitatis 20 drops.
Coffee 11 pints.
Whiskey 3 pints.
Ext. Nux Vomica ½ ounce.
Port Wine ½ pint.

To go through this is certainly more than equal to going over Niagara Falls in a barrel.

Contrary to the methods that would choose to give another poison just because it seemed to produce the opposite physiological effect, it would seem to me better to have an understanding of just how the body was best able to eliminate the

*American Medical Journal.

particular poison under consideration, and to assist its efforts in this direction. As for example in morphine poisoning, the argument for giving atropine as an antidote, is that morphine contracts the pupil while atropine dilates it. Does any one argue that the contraction of the pupil is the thing that produces death? It is instead the presence of morphine which may become so absorbed by the body fluids as to reach the vital centers in the fourth ventrical in a toxic quantity. How is it best eliminated? The kidneys are important in elimination of morphine; prostration may be so extreme that the bladder does not empty, in this case of course the poison may be reabsorbed from this source if a catheter is not used. In cases where the poison is a local irritant the mucous membranes make efforts to protect themselves by hypersecretion which acts as a mechanical antidote to prevent injury; this process can be imitated by the administration of fluids having protective qualities such as milk, cream, or egg.

So we can go on detail by detail to construct our physiological philosophy, which becomes more and more complete as our understanding of vital ability grows deeper. The man in general practice cannot expect to remember a special antidote for every one of a long list of poisons, but he can at least institute general methods for elimination promptly and thoroughly; frequently only this is necessary.

The general care of a toxic case after elimination has been made as complete as possible, does not differ markedly from the general care of any other case of extreme prostration. It is usually a mistake to require a great deal of effort on the part of the patient. The idea that the patient should keep moving to overcome the effects of a narcotic, is not always a good one. The drug may have been so powerful as to require all the latent strength of the individual to react from the shock; any extra expenditure of energy might endanger heart action.

It is not my intention, in this brief paper, to consider the specific treatment of the various poisons; it is my especial wish, however, to call attention to the fact, that in this subject, as in all others having to do with the art of healing, too great a knowledge of vital activity and vital ability cannot be obtained, and that any short cut method that goes immediately from symptom to remedy without regard for what is happening or is likely to happen, has no proper scientific basis for existence.

359 Boylston Street.

The Necessity for Careful Diagnosis of Women Patients

OLIVE CLARKE. D. O., LOS ANGELES, CAL.

Address delivered before Greater New York Osteopathic Society, October, 1909.

I have met only a few strictly lesion osteopaths, but our journals and conventions show us that there are very many of this peculiar class still in the field, so I feel that an article along this line from one who has been in the field of Gynecology for fifteen years might be of some value.

First, from a strictly osteopathic standpoint, the reflex arising from a cervical polyp, or a catarrhal endocervicitis, a chancroid, or a gonorrheal vaginitis, a sarcoma of the fundus, or metritis, would in any case be localized in the same area of the spine. And while a better circulation to all the organs under any of these conditions would be of value to the individual, surely no thinking man or woman would expect to secure permanent good results in any of these conditions, by spinal treatment alone.

Then, take cases of cystitis, that are of such frequent occurrence in women, and consider the variety of causes. Perhaps first in frequency will be found gonorrhea. How much benefit would the patient receive by osteopathic treatment if the part is neglected as to cleanli-

ness? I have found so many so called cases of cystitis to be only a urethritis caused by a urethral caruncle and have given the patient immediate relief by removing the tumor. I might have worked for months on an innominate or lumbar lesion (if the patient had been willing to put up with it), and in the end had to admit I could do nothing for her. Removal of the tumor and correction of any lesions existing prevented a return of the condition.

Many cases of stone in the bladder are not recognized because of neglect to make pelvic examinations; and while an osteopath reported at one of our State meetings that he had removed by manipulation alone, a stone as large as an English walnut, yet from our knowledge of anatomy we will recall the fact that a urethra is not dilatable beyond a half inch, without injury to the structure itself. Therefore, under most circumstances, a reasonable idea of the size of the stone is necessary, before means for its removal are instituted.

Ordinary cases of constipation respond to osteopathic treatment very readily. But many cases are not helped because of the failure of the osteopath to recognize the cause. I recall a case that was treated for almost a year. This case finally fell into the hands of a scientific woman, who found the cause was a tumor at the junction of the sigmoid flexure and rectum. The tumor had completely obliterated the calibre of the intestine and a pathological examination showed it to be sarcoma. If operation had been performed a year before the chances are that the woman's life would have been prolonged several years—and you know most of us like to live as long as possible.

We all recognize the value of the vaginal sphincter in opposing the rectal sphincter in defecation. Yet, many osteopaths treat cases of constipation without a knowledge of the condition of the perineum. Let me suggest that all of you observe the condition of the perineum in the first case of laceration that comes under your care. Have the patient strain as if at stool and see the pelvic organs forced down and out, while the rectum becomes tighter and tighter. Then draw your own conclusions as to the value of manipulation for the existing constipation, and incidentally as to the value of pelvic treatment for malposition of the uterus when the perineum is torn.

Cases of menorrhagia and metrorrhagia are often treated without a knowledge of the cause. I call to mind one case in which the patient was treated for several weeks for bleeding from the uterus. The patient seemed to lose less blood, but began to have a daily rise in temperature. The man who had her case in charge finally examined the pelvic organs and found an enlarged uterus and advised consultation. I examined her and found the uterus half way to the umbilicus and an odor to the discharge, temperate 101° and pulse 110. An examination of the lungs revealed a condition which I suspected was tubercular. She admitted to me that she had had her uterus opened by an abortionist several weeks before and had been assured that everything had come away, but that her present trouble dated from that operation. She also told me she had been subjected to every possible tubercular infection several months before. I applied the tubercular tests and had a positive reaction, but felt that there was not enough lung involvement to account for the high temperature. So I curetted her, and much to my surprise I not only found a placenta but a macerated foetus of about four months. The odor was terrific! What would have been the result if she had been neglected much longer!

I cannot close this address without a few words on the prevalency of gonorrhea among women, the value of its recognition and the proper treatment. Some of our best authorities on the subject say that 80 per cent. of the married women have gonorrhea. If treated properly in the beginning much suffering is prevented. Of course I recognize the

importance of prevention through proper education of the masses, but we must deal with present conditions.

I have found that the osteopathic treatment in connection with proper methods for cleanliness helps us to control these cases much more easily. Sitz baths, douches of normal salts or permanganate of potash, local application of argyrol or silver nitrate—depending on the extent of involvement, are indicated in the treatment.

Of late I have been interested in the lactic acid treatment of gonorrheal urethritis or vaginitis, and as soon as I have collected a sufficient number of cases will report my results in detail. We cannot afford to leave undone anything that will lessen the suffering of women thus infected.

Let us not limit our usefulness to humanity by being too narrow to use methods that have proven to be of value, long before the osteopathic principle was conceived. But rather let us take these methods of diagnosis and treatment as our heritage and be glad of them, remembering that the very narrowness which would cause us to shun these methods is the thing we condemn in the so-called medical man.

805 W. PICO ST.

Clinical Physiology of the Spine in the Acute Infectious Diseases

EARLE S. WILLORD, D. O., PHILADELPHIA, PENNSYLVANIA

By an acute infectious disease is meant a state of perverted functional activity resulting from specific pathogenic bacteria invading the body. Such a disease is invariably attended with perversion of metabolic processes throughout the body; and is characterized clinically by abnormal temperature changes.

General Consideration—Pyrexia, i. e., abnormally increased body temperature, is the most characteristic symptom of the acute infections. It is due directly, all are agreed, to increased metalbolism, i. e., to an increased rate of building up and tearing down the tissues of the body. For the normal body heat, as is well known, is maintained by normal metabolic processes. Now, the generally accepted explanations of pyrexia do not clearly show how pernicious bacterial activities are etiologically related to abnormally increased metalbolism. Indeed, the most widely talked-of theories of immunity, e. g., Ehrlich's side-chain theory, fail uttely to establish any definite or logical relation. Dr. Sajous, however, explains this relation, I believe, clearly and scientifically; at any rate, he seems to me to be more reasonable and practical than any other man who has attempted to explain this relation; at the same time he emphasizes a fact—which none can gainsay and yet which many other scientists have overlooked—namely, that in every infection certain inherent forces of the body themselves, when properly directed, act specifically and naturally to rid the body of pathogenic germs. His explanation in substance is as follows:

Poisons in infectious diseases are generated either directly by pathogenic bacteria during their lifetime or else by their dead and disintegrated bodies, or by both. When the poisons, no matter how originating, enter the blood-stream, they affect the "test organ" in the anterior pituitary body, either exciting it to overactivity or paralyzing it partially or completely. Bacterial poisons for the most part excite the "test organ" to overactivity, resulting directly in overactivity of the whole autoprotective mechanism. In other words, they irritate the "test organ," and thereby initiate overactivity in the thyro-adrenal center which governs the whole autoprotective mech-

anism. Thus there is caused to be secreted an abnormally increased quantity of autoantitoxin, including an increased quantity of thyrodase, i. e., thyro-parathyroid secretion, and adrenoxidase, i. e., oxygenated adrenal secretion. The protective action in the blood of an excess of these two secretions is this:

The excess of thyrodase secreted, as already seen, acts directly upon all deleterious bodies, including bacteria. It renders them not only less virulent but also more readily acted upon by two important defensive agents, viz., the leucocytes and the digestive ferment, trypsin, both as we shall presently see are generated in excess of normal.

The excess of adrenoxidase causes excessive metabolism; for as already explained, the quantity of adrenoxidase circulating in the blood determines the rate of metabolism throughout the body. Thus an excess of adrenoxidase generates and excessive number of leucocytes; likewise there is secreted by the pancreas an excessive quantity of trypsin.

At this stage of intracorporeal reaction the all important feature of the protective process takes place, to wit: The leucocytes ingest trypsin and also bacteria, acted upon *vide supra*, by thyrodase. The trypsin in the body of the leucocytes actually digests the ingested bacteria converting them into comparatively harmless and eliminable substances. Thus bacterial endotoxins circulating in the blood excite to overactivity the autoprotective mechanism and thereby increase metabolism. This latter phenomenon, when the protective forces are adequate, rids the body of bacteria and their endotoxins. In other words, pathogenic germs that invade a human body whose autoprotective mechanism is capable of reaction invariably excite reactionary processes that speedily and inevitably bring about their own destruction.

This, in brief, is Dr. Sajous's interpretation of practically all intracorporeal phenomena that are manifested clinically by pyrexia. Certain infections which paralyze the "test organ" partially or completely are not characterized by general pyrexia, for they result, as we shall see later, in lowered metabolism.

THE DIAGNOSIS AND TREATMENT OF CONDITIONS OF THE SPINE IN ACUTE INFECTION—The position of the osteopath concerning the pathogenesis and the pathologic physiology of the acute infections is nowhere definitely stated. There is in the osteopathic profession a generally accepted dictum—decidedly abstract and impracticable—that abnormal structure and function somewhere in the body is the primary cause of deteriorated health as well as the chief factor in physical disability. This dictum is abstract and impracticable because it does not attempt to specify where or how any particular etiological derangement brings about disease; in fact everything that it does imply is a foregone conclusion. One might just as well pretend to explain the cause of the clinical phenomena in the acute infections on the basis that "Disease germs can infect a person and produce and maintain disease only when the person's body furnished a suitable lodgment for them." While this latter succinctly states a matter of supreme importance to the human race, yet it contains nothing of practical value to the physician who is searching for the functional or structural derangement that induces and maintains infection in the body. Obviously, what we as osteopaths need in this matter is a concrete statement of our position concerning the clinical physiology of the acute infections. And I contend that we cannot profitably study the infections without having a specific, basic conception of their clinical physiology. Hence, I offer as a working hypothesis in our study of acute disease the following conclusion based upon the results of clinical practice as well as upon certain established anatomical facts and certain of the physiological principles set forth in our discussion of the autoprotective mechanism:

Every person, whether or not organically sound, in whom the autopro-

tective mechanism is capable of reaction, is immune to infection so long as the nerve pathway in the cord that connects or communicates with the different parts of the autoprotective mechanism is intact, i. e., so long as the pathway can transmit and deliver impulses to the functioning part of the mechanism in the body. Further, the gravity of the disease, when infection occurs, is directly proportionate to the severity of the functional impairment of this nerve pathway. Thus we are brought face to face with the real issue, namely: Do we find in every case of acute infection a common structural or functional perversion whose presence can be demonstrated anatomically and physiologically to be inimical to normal function in the cord, and whose partial or complete rectification results beneficially to the patient? It is my purpose now to show that we do.

Every osteopath knows that in acute disease the muscles in the suboccipital, the anterior cervical and the interscapular regions are pathologically affected. Sometimes they feel tense and thickened to the palpating fingers, and again they feel swollen and engorged. Always their normal resilience is lost; and always they are exquisitely painful under pressure. Let me emphasize by repeating the fact that these pathological conditions are constant accompaniments of acute infection. Their appearance is coeval with disease, and their disappearance is coincident with recovery. Obviously, then, they are secondary to, i. e., caused by, the infectious process; however, as we shall presently see, they themselves seriously affect certain vital structures, and, therefore, are pernicious factors in every infection.

It must be clearly understood that these extreme, general muscular perversions are not the primary cause of hypoactivity of the autoprotective mechanism which, in the first place, rendered the body vulnerable to pathogenic bacteria. Indeed, the ultimate cause can possibly never be determined. However, it seems reasonable to believe that loss of normal spinal-joint function, so frequently found in apparently healthy persons, plays an important etiological role. For, as explained in the chapter on "Spinal-Joint Immobility," partial or complete loss of spinal-joint function impairs the circulation in the corresponding segment of the cord as well as in the nerves that leave the affected segment, thereby lowering the efficiency of certain important nerve pathways. Thus when there occurs joint impairment in the cervical or upper dorsal spine, and excessive demands are made upon the organism, nervous equilibrium between the brain and the organs of the body is likely to be disturbed and the reaction of the autoprotective mechanism weakened.

It is at this stage of lowered vitality that infection takes place and reflex spinal muscle impairment begins. Afferent impulses are continually passing from the various organs of the body to the brain. Normally these impulses pass to the brain either via the cord or the vagus and incite efferent impulses that react for the good of the organism. But in the infections there are no normal activities in the body. On the contrary, nerve centers are bombarded with abnormal impulses, many of which are deflected into abnormal pathways. Abnormal nerve impulses, some of them originating in the organs of the body and some in the test-organ in the brain, are deflected—possibly through functional impairment of the pathways in the cord —to the nerves supplying the spinal muscles. The result of this is, first, a pathological contraction of the fibres of these muscles, and, second, either a general constriction of all the arterioles or else a general engorgement of the vessels throughout the muscle substance. In either case the circulation of blood throughout the pathologically contracted muscle is retarded, for the contraction is maintained not by metabolic processes as in health, but by abnormally generated and faultily transmitted nerve impulses. The nerve supply to the arterioles throughout the muscle, as explained in

the chapter on the "Autoprotective Mechanism," accounts for the anemic condition in some cases and for the hyperemic condition in others. When pathological impulses to the muscle pass simultaneously to the terminal constrictor fibres of the vasa vasorum and the terminal constrictor nerve fibres of the spiral muscles of the arterioles, local anemia of the muscle results. When the impulses pass only to the terminal constrictor fibres of the vasa vasorum, the arteries dilate and, as a result of venous compression from the tonically contracted muscle fibres, become turgid with blood. In the former case the blood does not flow normally to the muscle, in the latter it does not flow normally from it. In other words, in both cases the blood flow in the muscle is partially or completely impeded by perverted functional activities in the muscle. This fact must be borne in mind as it is an important factor in our interpretation of the clinical physiology of acute infection. Let us now consider the effect of reflex spinal muscle involvement.

In infection all of the cervical muscles seem to be more or less pathologically implicated from the outset. Possibly this abnormal reflex condition is produced and maintained by impulses that travel over the cranial nerves. As already stated, afferent impulses are passing continually over the vagus to Sajous's stricto-dilator center in the posterior pituitary, where, in infection, they are doubtless, abnormally reflected via the fifth, seventh, tenth and eleventh cranial nerves to the muscles in the neck known to be supplied by these nerves. Indeed, it seems not at all unlikely that cervical muscles now thought to be supplied only by the upper cervical nerves can be reflexly affected by impulses that leave the brain via the tenth and eleventh cranial nerves and pass to the muscle via connecting nerves known to exist but not functionally understood. But be this as it may, the muscles throughout the neck are taut, thickened, dense and superficially engorged with blood and lymph. The result is that the many circulatory channels leading from the brain and passing through the neck are more or less mechanically obstructed. For example, the middle meningeal veins are compressed as they pass between the pterygoideus externus and internus muscles. Likewise the lymph channels passing downward by the side of the internal cartoid artery and the internal jugular vein are more or less obstructed. Even the circulation in the great internal jugular vein may be slightly obstructed by direct pressure from tightened and thickened muscular bands. Thus, there is brought about passive congestion in the brain and membranes by direct obstruction to veins. Also slight odema of the brain is the inevitable result of obstructed lymphatic drainage. These impediments to the efferent cranial circulation bring about abnormal intracranial vascular pressure and altered metabolism, and lowered efficiency in the controlling centers of the body. And so we see that in acute infection, reflex involvement of the cervical muscles acts directly at the very seat of vitality to impede the flow of vital fluids and forces to and from all parts of the body.

The effect upon the organism of pathological involvement of the upper dorsal muscles is less complex than the foregoing though no less detrimental to the well being of the patient. In the dorsal region, as first pointed out by Dr. Richardson, * muscular contraction results in collateral hyperemia of the dorsal cord thereby altering metabolism in the cord and adding another impediment to the already tardy reaction of the autoprotective mechanism.

Other baneful effects of functionally impaired spinal muscles in acute infection could be cited, but the foregoing are sufficient to show that, without any question of doubt, spinal muscular impairment exerts a profoundly disturbing in-

*Richardson: Relation between Spinal Muscles and Viscera. Phila. Journal of Osteopathic.

fluence upon the organism. So much for the cause of spinal muscle impairment and the effect upon the autoprotective mechanism; let us now consider the effect upon the disease itself of partial or complete removal of concomitant muscular impairment.

The general technique of treating spinal muscular impairment in fevers is this: In the posterior cervical region the affected muscles are delimited by careful palpation, after which treatment is effected by careful thenar or digital pressure over the dense, tense, thickened fibres. The affected muscles are also given deep, careful manipulation and are passively stretched by steady traction applied to them at right angles to their long axis. ** In the anterior cervical region deep pressure and deep manipulation are made on both sides of the neck as far up under the angle of the jaw as the fingers can reach; also in this region all of the tissue both deep and superficial are thoroughly manipulated. In the interscapular region the affected muscles are passively stretched, deeply manipulated, and firmly compressed between the thoracic wall and the physician's thumbs, fingers or thenar eminence. The effect of this treatment is to relax contracted fibres and to restore tone and resilience to the muscle. The deep pressure may have the effect of paralyzing motor and vasomotor nerve fibres just as pressure when one leg is crossed over the other temporarily paralyzes the nerves pressed upon. If the effect of pressure is temporary paralysis, the moment the nerves in the spinal muscles are functionally impaired by pressure the fibres they supply relax; also the constricted arterioles dilate and admit arterial blood in normal quantity. The deep manipulation promotes lymphatic circulation and assists in normalizing the blood-flow in the muscle substance. Immediately following relaxation of the interscapular muscles collateral hyperemia of the cord is relieved. Immediately following relaxation of the cervical region congestion in the brain and membranes is reduced and intracranial pressure is lowered. With these serious impediments to vital activities removed the efficiency of the higher centers is raised and the continuity of the transmitting pathway in the cord that communicates with the different parts of the autoprotective mechanism is, for the time being, restored. The result is a reaction of the autoprotective mechanism and the elaboration and secretion of an excess of autoantitoxin. That this latter phenomenon results is clearly shown by the fact that, as a rule, for fifteen minutes or half an hour after the treatment the temperature is elevated; after this the temperature gradually approaches normal and the patient experiences a general sense of relief. Several treatments a day, as outlined above,* are given in severe infection; and, no matter whether or not any other treatment is indicated or given, this treatment by improving the circulation in the brain and spinal cord and enhancing the protective and recuperative actvities of the body adds materially to the patient's chances of recovery.

404 Wieghtman Bld.

** It is a significant fact that relaxation of the posterior cervical muscles reflexly relaxes the anterior cervical muscles, and vice versa. Indeed, I believe that the chief beneficial effect, in the majority of cases of relaxation of the suboccipital muscles is brought about through the reflex relation of the deep anterior muscles and the consequent establishment of free venous and lymphatic drainage from the brain and membranes.

* Of course, in addition to the treatment administered for the specific purpose of enhancing the resisting power of the body, treatment, where indicated, is given to overcome perverted activity of the vital organs themselves. For example, when the kidneys are inactive, i. e., are congested or inflamed, the muscles in the lower dorsal region are relaxed so as to relieve collateral hyperemia in the lower dorsal cord and thereby permit the obstructed renal vasomotor impulses to travel via the renal splanchnics to the kidney to restore tone and relieve congestion or imflammation.

Tuberculosis—A Study

A. P. TERRELL, M. D., D. O., DALLAS, TEXAS

(Read before the Texas State Association, Waco, Texas, May 28, 1909.)

A great deal is being said just now on tuberculosis. Believing, as I do, that the last "Amen!" has not been reached on this subject, I venture to add a few words to what has already been said. No physician, who has the health and life of his patient at heart, can know too much about this subject. A wide-awake, up-to-date physician must be able to make an early diagnosis of consumption, and put the patient on the proper treatment, if he would prolong life, or effect a cure. Delay in diagnosis and correct treatment means death.

Tuberculosis is a progressive disease. It is, I think, a disease of the lymphatic system. The germs gain entrance into the system through the mucous membrane, are carried into the lymph nodes and are strained out by them. This being the place where the blood serum has greatest access to the intruders, most of the bacilli are destroyed and cause no further trouble. At times, however, the bacilli, in spite of the unfavorable conditions to their growth, succeed in establishing themselves in these glands; here they multiply and cause a focus of infection. The germ is not transmitted from parent to child. We cannot say that the child is born tuberculous. The disease is conditioned, they tell us, absolutely on the presence of the Koch bacillus. The thing transmitted is not the germ, but a vulnerability, a vitiated state of the tissues, a weakness, a tendency to consumption. This being true, the child is more susceptible to tuberculosis; the nidus is already formed, and the bacillus finds a house already prepared and furnished for his occupancy. Here he feasts and multiplies until it is impossible to dislodge him and his. From this fortified place they sally out and capture other territory, and thus the war goes on till they are complete masters of the situation. Of all agencies inimical to human life the tubercle bacillus is, and seems always to have been, the greatest and most destructive; it is the agency more than any other entitled to be considered the executioner which fulfills the brutal law of the survival of the fittest.

What I have said thus far fairly represents, I think, the great majority of physicians of all schools. After years of "research" and "scientific investigation," they have reached these conclusions. It is my purpose in this paper to ask these scientific investigators, these men of great research, these men of advanced thought, a few questions on this subject. These questions are not asked, I would have you understand, to appear hypercritical, or for mere pastime, but for the sole purpose of eliciting the truth. There are those who take a thing for granted without even thinking or investigating for themselves. It is said that Franklin once asked some would-be scientists why it was if you put a fish weighing a pound into a vessel filled with water, the water would not run out or overflow. They scratched their heads, looked wise, figured and philosophised, but could give no satisfactory answer. Franklin finally said to them: "Gentlemen, suppose you try the experiment and see whether or not it is true," They tried it and found that they had been making fools of themselves. Gentlemen, suppose we try some of this "scientific research," some of this "advanced thought," and see whether or not it is true. The writer would love to have some of these scientific investigators answer for him the following questions:

First, if, as some of them claim, an out-of-door life will prevent and cure tuberculosis, why is it that young men who are thoroughly examined for the army and navy, and are pronounced free from any tubercular symptoms, become

infected six or twelve months after entering upon this out-of-door life and die with consumption? Where do they get the disease, and why does not the life they live cure them? Is there not something wrong about the manner of infection, or something wrong about the theory of out-of-door life curing the disease. On the cause and cure of consumption, M. E. Chartier, in an article written for the North American Journal of Diagnosis and Practice, says:

"When Koch several years ago discovered the bacillus of tuberculosis, it was thought at first that the annihilation of this bacillus by means of a strong parasiticide would effect a cure. Numerous experiments, however, have demonstrated that the microbe is neither the only nor the essential cause of the disease. In many cases it has been proven that the rapid destruction of the bacilli would not have caused a rapid cure, as their dead bodies, producing decomposition, would have prevented the 'tuberculous periplasma' from being organized. In other words, and according to Prof. Vaugely, of Bordeaux, France, 'the microbe is nothing, while the organism in which it thrives constitutes the main factor.' Dr. Unterberger, physician-in-chief of Military Hospital at Zarchoe-Celo, came to the same conclusion in establishing, through clinical researches, that the bacillus of Koch is not a complete parasite, but a parasite developing itself on favorable ground; that is, a nosoparasite. We know to-day that the prototype of the tuberculous lesion, granulation, is a manifestation of the defensive forces of the organism against the bacillus, and that its natural function is to poison and destroy the bacillus, only to disappear later on. Tuberculous granulation is therefore a means of isolating the bacillus of Koch, which it destroys in the organism previous to being reabsorbed. The experiments of Virchow (Berlin), Strauss and Gameleia (Paris) and Prudden (New York), have, unfortunately, proven that the dead bacilli, as well as their secretions, are not favorable to fibrous transformation of the alterated tissue. The conclusion of this is that the administration of necrophytic substances, among them the strongest antiseptic, are of no immediate value. According to Dr. Ferrau, of the International Institute of Dosimetric Medicine, what is wanted is a remedial agent 'inducing the molecular renovation of the organism through the organism itself.'"

Second, if, as some would have us believe, the tubercular germs are so easily transmitted, why is it that the keepers of sanitariums for consumptives, and the members of the physician's family do not take the disease? I know physicians, and so do you, who have lived in or adjacent to these sanitariums for years and they nor their families became affected. They lived there, ate there, drank there, slept there, were there day and night and none of them had consumption. If the breath, sputum, etc., are as dangerous as many "investigators" tell us they are, how do the doctors and the members of their families ever escape? Sajous accounts for it on this wise. He says: "It is to be noted that, while the bacillus of Koch is the specific agent necessary for the development of pulmonary tuberculosis, one or more of the general and direct predisposing causes before mentioned must have prepared a suitable soil for the bacillus to become inimical to the patient." In other words, a person must have one of the things absolutely necessary to tuberculosis before the bacillus will take up his abode with him. This being true, why not spend our time and money on these bodily weaknesses, and let the germs alone. We have absolutely failed on the germs, why not change our tactics? The editor of the *Montgomery Medical Brief*, says: "That we are doing our patient no good by wasting time over tubercle bacilli, because all physicians know that a knowledge of tubercle bacilli has added nothing to our power of curing disease." Listen, if you please, to this clipping which I made from the *Dallas Morning News*:

"Washington, May 13.—That a vigorous campaign against tuberculosis has failed to check the great white plague, was the charge made by Nathan Straus, the New York philanthropist, at the fifth annual meeting of the National Association for the Study and Prevention of Tuberculosis here to-day. Mr. Straus backed up his assertion by official statistics from the New York health department, showing an increase of 33 per cent. in two years in cases of tuberculosis in the city that Dr. Koch described as leading the whole world in a fight against the disease."

Third, if an out-door life is a guarantee against consumption, why is it that four

negroes die of the disease to one white person? The colored people, as a rule, live in open, well ventilated houses, and have plenty of sunshine and fresh air. Is it not a little strange, that if fresh air, sunshine and simple food will ward off or cure the disease, that more negroes die of consumption that whites? Does such a life prevent or cure tuberculosis? I answer, No! The birds, rabbits, deer, cows, etc., which live in the fields and forests, die of this "white plague," Living out of doors will do much for all invalids, but it will *no more cure tuberculosis than it will pneumonia, typhoid fever and other diseases which need plenty of fresh air.* What is true of the black man is also true of the red man. He lives out of doors, but does not escape the ravages of consumption. Listen, if you please, to this clipping:

"Washington, March 22.—As the buffalo vanished from the great Western plains, so is the Red Man gradually disappearing through the ravages of that slow but insidious disease of tuberculosis. To save the Indian race from this disease and yet lead it into the ways of the white, is the task of the bureau of tuberculosis. Alarmed at the excessive mortality of the Indians, ways and means of effectually combatting the disease among them have been devised. There will be a concerted effort on the part of all connected with the Indian service for the removal of the causes of the disease."

That the out-door treatmnet, or prophylactic measures alone will not cure consumption is the conclusion reached by many learned physicians. Dr. Georges Petit, says:

"This hygieno-dietetic treatment is thoroughly carried out at the present time in the various sanatoria and its details will be found in works dealing with the sanatorium treatment of tuberculosis and pretuberculous subjects.

"We must admit, unfortunately, in view of the large proportion of uncured patients who are discharged from these establishments, that prophylactic measures alone are utterly inadequate to ensure recovery from tuberculosis and the consumptive states that lead up to it."

We attach considerable importance in this connection to the statement made by Dr. Bucuoy, member of the Academy of Medicine, who, at a meeting of this body, said in reference to the treatment of tuberculosis:

"I quite agree with Dr. Landouzy when he insists upon the necessity for therapeutical agents in the matter of pulmonary tuberculosis. The famous *triology*—fresh air, rest and good living, which constitute the too exclusive basis of the best sanatorium treatment, must be supplemented by medical treatment properly so called, which there seems to be a tendency now-a-days to despise."

Dr. Petit is general secretary of the International Society of Tuberculosis; senior physician to the Anti-Tuberculosis Dispensary, Paris.

Fourth, if children who have a history of tuberculosis in both branches of their family, that is, in both the family of the mother and the father, were early in life far removed from consumptives, and required to live in the open air, would they develop tuberculosis? I verily believe that some, if not all of them, would die from the "white plague." May it not be, after all, that the germ is in every human being, and under proper conditions or states of health is awakened from a dormant or inactive life, and begins the work in the body? The conditions which awakens, hatches or energizes them may form a nidus for them, and they begin their ravages at once. Eh?· "Think on these things," reader.

Dr. Sajous says: "Congenital tuberculosis, in the majority of instances, occurs from infection through the blood current; either the bacilli lodge and grow in the placenta or, having passed this tissue, invade the foetal organs and blood; but, considering the prevalence of the disease, congenital tuberculosis may be regarded as one of the rarities in medicine."

Fifth, if two things, a "physical weakness" and a germ, are necessary to consumption, why is it that we often find persons who have both parents living, and with no history of tuberculosis in either branch of the family, dying with the dread disease? Whence came this "physical weakness?" What formed this nidus for the germ? How could it have been evolved when it was not involved? Neither side of the family had any signs of tuberculosis as far back as the "oldest

inhabitants" could remember. How came the child of such parents with this physical weakness? Did the germ produce the weakness, or did the weakness produce the germ, or did he have the weakness and borrowd the germ from a neighbor? Will the Koch bacilli grow and multiply on any kind of weakened tissue? In other words, will pneumonia, typhoid fever, diphtheria, scarlet fever, etc., produce a soil sufficient for their growth and development? Does just any kind of disease which weakens the patient prepare a suitable habitation for the tubercular germ? How is this, gentlemen?

Sixth, have these men of great research, the scientific investigators, these men of advanced thought, ever found a cure for consumptives? Can we exclaim, *Eureka!* and lay down our pens? Can we exclaim, *Selah!* and no more speak out on this question? Can we truly say, *"finis,"* or *"ne plus ultra!"* I think not. The last word has not been said on this subject. There is no specific, there is no panacea. Dr. Georges Petit says:

"We will now proceed to describe and discuss the medical treatment which is so ably seconded by rest, pure air and free alimentation.

"The Worthlessness of Antiseptics—No sooner was the parasitic origin of tuberculosis solidly established than it occurred to many to seek and destroy the bacillus by means of antiseptics. Many are the substances that have been tried in this direction—carbolic acid, iodine, iodoform, naphthol, creosote, guaiacol and its substitutes—but none of them, outside the laboratory, has ever given results which would justify its being put forward as a specific.

"The Uselessness of Serotherapy—The serum treatments have not given better results than antiseptics. Having been fortunate enough to succeed in putting his finger on the cause of the disease, Koch for a time thought he had discovered the remedy for it in his famous tuberculin. It is unnecessary at this juncture for us to insist on the inefficacy of this remedy and the dangers attending its use. At the last Congress on Tuberculosis, Germany, in the person of the illustrious Behring, once again proclaimed its victory over the terrible bacillus, but by this time everyone knows what importance to attach to the claim."

Dr. F. M. Pottenger, of Monrovia, Cal., in summing up what he has said on the subject, says:

"That it can be seen that there is nothing specific in such measures as fresh air, good food, the regulation of rest and exercise, hygiene, hydrotherapy, and tonics, yet they have their purpose in the treatment of tuberculosis."

Dr. William Osler says (*Medical News*, Dec. 12, 1903);

"The rational treatment of tuberculosis, and the only one that will give good results, resolves itself into seeing that the patient is kept under control from the first stages of the disease and that he receive plenty of good food and fresh air and absolute rest during the febrile periods."

What about the *Succinimide* of Mercury, as advocated by Dr. B. L. Wright, U. S. A., and others? Does it not cure? Is it not a specific? No; it, too, has proven a failure. In the *Medical World* for May, Dr. L. P. Barbour, of Rocky Ford, Col., says: "Several of the doctors of this place have tried the treatment, and each has followed Wright's directions. I have not used it at all. I have known about six or seven of the patients, and so far as my acquaintance goes, none have been benefited. I have asked Dr. Lawson, one of the leading practitioners of the place, as to his experience. He has treated several cases—he did not say how many—but says that, in his opinion, none received benefit. Most of his patients grew worse. One had improved, but she was improving when he put her on the succinimide treatment." This treatment is on a par with the creosote treatment, and, like it, will soon run its course.

In conclusion, I wish to say that osteopaths have the most rational, least harmful and most beneficial treatment for consumptives known to the profession. They fully believe in the fresh air, sunshine, good food and rest treatment; and their manipulations are the very thing to keep the fluids of the body circulating properly, and the nerve force at its best,

Vertebral Articular Lesions

HARRY W. FORBES, D. O., LOS ANGELES, CAL.

(INNOMINATE LESIONS—INTRODUCTORY ARTICLE.)

ANATOMICAL AND PHYSIOLOGICAL CONSIDERATIONS—The sacro-iliac joint is a diarthrosis. The articular surface of the sacrum and the ilium are covered with cartilage, the joint cavity is a narrow cleft, a capsular ligament surrounds the joint, a slight gliding motion in all directions is allowed and a rotation on a transverse axis occurs. It is of historic interest to note that this joint was classified with the immovable articulations up to quite recent editions of the standard texts on anatomy.

The articular surfaces on the sacrum look outward and backward. The anterior margins of the articular surfaces are more widely separated than the posterior; the superior margins are more widely separated than the inferior. In other words, a line connecting the anterior margins of the articular surfaces is longer than one connecting the posterior margins; and a line connecting the superior margins is longer than one connecting the inferior margins. These facts are of practical importance. That the upper margins of the articular surfaces are more widely separated than the lower, is generally recognized; that the front margins are more widely separated than the back margins, is frequently overlooked. One seeing the first and overlooking the second naturally considers the articulation of the sacrum with the innominates as similar to the position of a keystone of an arch, i. e., the sacrum is conceived as a wedge, base upward, passed downward between the innominates. This is not the case. The "sacrum is a keystone inverted."—Quain. This is readily seen when, with the anatomical position of the pelvis in mind, one thinks of the greater breadth of the anterior than the posterior surface of the sacrum. The sacrum is placed betweeen the innominates as a wedge with its base directed forward and downward, its apex pointing backward and upward.

The capsular ligament surrounding the joint is especially thickened, posteriorly. For purposes of description it is divided into anterior, superior, posterior and inferior sacro-iliac ligaments and an interosseous ligament. A detailed description of these is not within the province of this article. Suffice it to say that the bones are securely bound together by a capsular ligament which is especially strong behind and above. The necessity for this will be made clear in the following: The greater and the lesser sacro-sciatic ligaments are check ligaments of this joint. It is difficult to understand how any thinking anatomist, familiar with the function of ligaments, could have considered the sacro-iliac joint an immovable one after an examination of the sacro-sciatic ligaments. The function of ligaments is to limit the motion of joints, not to prevent motion. The function of the sacro-sciatic ligaments is to limit the motion of the sacro-iliac joint. They have no influence on any other joint and would not be present in the body but for the fact that this is a movable joint. The thickening and roughening of the sacrum and ischii at the points of attachment of the sacro-sciatic ligaments are evidence of the amount of strain which has been developed between these points and borne by the sacro-sciatic ligaments. These ligaments pass forward, downward and outward from the lateral margin of the sacrum to the tuberosity of the ischium on each side.

A gliding and a rotary motion occurs in the sacro-iliac joint. Gliding motion occurs in all directions. It is freer from above downward and from before backward. Rotation on a transverse axis occurs. The axis of motion is drawn

at the level of the second sacral vertebra. Inasmuch as the two regular lesions of the innominate—anterior rotation and posterior rotation—and the two regular lesions of the sacrum—anterior and posterior sacrum—arise on this axis of motion, it seems necessary to discuss it in detail. In addition to the foregoing, a knowledge of the position of the pelvis is essential to an understanding of this motion.

"In the erect attitude of the body, with the heels in contact and the toes directed outward, the pelvis is so inclined that the plane of the true pelvis forms an angle with the horizontal, which varies in different individuals from fifty to sixty degrees. The base of the sacrum is then about three and one-half inches above the margin of the symphysis pubis, and the tip of the coccyx from half an inch to an inch above the apex of the subpubic arch. The inclination of the pelvis varies with the position of the lower limbs, and the angle is generally somewhat greater in the female than in the male. The pelvic surface of the sacrum, near its base, looks much more downward than forward, hence the sacrum appears at first sight to occupy the position of the keystone of an arch; but being in reality broader at its pelvic than on its dorsal aspect, it is a keystone inverted, or having its broad end lowest, and is supported in its place chiefly by ligaments, but also to a slight extent by the inward projection of the anterior margin of the iliac articular surface. The line of pressure of the weight of the body on the sacrum is directed downward toward the symphysis pubis and the resistance of the head of the thigh bone on each side is directed upward and inward." —Quain.

With all of the foregoing anatomical facts in mind, it is readily seen that in the erect attitude of the body the upper end of the sacrum tends to move downward and forward while the lower end tends to move backward and upward. The weight of the body is transmitted to the top of the sacrum on a line decidedly in front of the transverse axis of rotation of the sacrum on the innominates, hence the base of the sacrum moves toward the symphysis pubis and the coccygeal extremity moves backward and upward. This motion is arrested by the posterior sacro-iliac and the greater sacro-sciatic ligaments. The posterior sacro-sciatic ligaments are made taut by the downward and forward motion of the base of the sacrum, the greater sacro-sciatic ligaments by the upward and backward motion of its lower extremity. It will be observed that, because of the wider separation of the anterior than the posterior margins of the sacral articular surfaces, the weight of the body in the erect attitude would force the sacrum out from its position between the innominates and that the direction of its motion would be downward and forward. This motion is arrested and dislocation prevented by the posterior sacro-iliac ligaments, hence the necessity for the great thickening of the capsules posteriorly, i. e., for the development of strong posterior sacro-iliac ligaments. In the erect attitude of the body, the weight of the head, neck, trunk and upper extremities is borne by them. It would be difficult to overstate the importance of this arrangement. Consider for a moment the wonderful anatomical provisions in virtue of which the central nervous system is protected from jars; pass in rapid review the arches of the feet, the compressibility of the ankle joints, the cushions in the knee joints, the tendency to upward and outward misplacement of the hip joint (which, though made secure by muscles and ligaments, are admirably formed for breaking jars), the curvatures of the spine, the intervertebral cushions, the many spinal joints, etc.—I repeat, pass all of these anatomical facts in review and realize adequately their importance for the prevention of an agitation of the central nervous system by jars, and then understand that all of these arrangements would be practically for naught if the sacrum were inserted as a wedge with its base upward, between the innominates,

in such a manner that the weight of the trunk was transmitted to the lower extremities by a solid bony contact. Instead of this, the sacrum hangs between the innominates, suspended by the posterior sacro-iliac ligaments. The natural inference from the foregoing is that immobility and rigidity of the sacro-iliac union would produce nervous illness. This inference is verified by abundant clinical evidence. Sacral and innominate lesions immobilize and make rigid the sacro-iliac joints; illness referable to disturbed nervous function is constantly associated with these lesions; correction of the lesions and restoration of the normal range of motion in the joints are followed by recovery. The *a priori* reasoning is justified *a posteriori* by clinical evidence.

A further word needs to be written about the function of the sacro-sciatic ligaments. It has been noted that in the erect attitude of the body the sacrum tends to revolve between the innominates; that the axis of motion is a transverse one drawn at the level of the second sacral vertebra; that the weight of the trunk is transmitted to the top of the sacrum in front of the axis of rotation, thereby causing a forward and downward motion of the top of the sacrum and a backward and upward motion of its lower end; that the sacro-iliac ligaments arrest this forward and downward motion of the base of the sacrum, and suspend it, and through it the trunk, from the innominates. With these facts in mind, the function of the sacro-sciatic ligaments is apparent. They extend backward, upward and inward from the tuberosity of the ischium on each side to the lateral margins of the sacrum and coccyx. Their function is to arrest the backward and upward motion of the lower end of the sacrum. They thereby effectively aid the posterior sacro-iliac ligaments in checking the revolution of the sacrum and in making secure the sacro-iliac joints.

The gluteus maximus muscles behind and the psoas magnus muscles in front move these joints and assist the ligaments in limiting and controlling the revolution of the sacrum.

GENERAL DESCRIPTION AND DEFINITIONS—Probably the best way to obtain an understanding of the morbid anatomy of sacral and innominate lesions is to study the motions in the normal sacro-iliac joints. Select for a subject one with a flexible spine and normal sacro-iliac joints. Have the subject stand erect with his feet together. Instruct him to bend forward as far as he can without flexing his knee. Stand behind him and note that the base of the sacrum moves downward and forward between the innominates; that the transverse interspace between the posterior superior spinous processes and iliac crests in front of these is narrowed; that the posterior superior spinous processes and iliac crests immediately in front of these have moved backward in relation to the base of the sacrum; that the distance between the ischial tuberosities and lateral margins of the sacrum is increased; and that the great sacro-sciatic ligaments are made taut. This motion is named anterior rotation of the sacrum, or more correctly, flexion of the sacrum. Let the sacro-iliac joint be immobilized in this position of exaggerated flexion and lesion exists. This lesion is variously named, anterior sacrum, flexion lesions of the sacrum, bilateral posterior innominate. It is of frequent occurrence in children and is one of the causes of round shoulders.

Place the subject prone on the table. Place your hands on the iliac crests immediately in front of the posterior superior spinous processes. Instruct the patient to bend backward, using his arms to lift his body and hyperextend his spinal column and sacrum. Press downward with your hands to hold his pelvis in contact with the table. Note that the top of the sacrum moves backward and upward between the innominates, that the transverse interspace between the posterior superior spinous processes and iliac crests immediately in front of these is increased, i. e., that a line connecting

the posterior superior spinous processes is made longer; that the iliac crests immediately in front of the posterior superior spinous processes have moved forward in relation to the top of the sacrum; that the lateral margins of the sacrum have approached the tuberosities of the ischii; and that the great sacro-sciatic ligaments are made lax. Let the sacro-iliac joints be immobilized in this position of exaggerated extension and lesion exists. This lesion is named posterior sacrum, extension lesion of the sacrum, bilateral anterior innominate. It is one of the causes of a flat chest or straight spine.

Anterior and posterior sacrum will be the subjects of separate articles later on in this series. The object of mentioning them here is to make more easy the description and definition of innominate lesions. Place the subject on the table, supine. Put a block under the heel of the right foot to lift it six inches from the table. Have the patient bend strongly forward without allowing the right knee to flex. Stand at the side of the table and press his head toward his knees to increase the forward bending of his spine. In this position the right innominate is immobilized by the pull of the hamstring muscles and a strong flexing force is brought to bear on the right sacro-iliac joint. Note that in this position the right posterior superior spinous process and the iliac crest immediately in front of it are moved backward in relation to the base of the sacrum, which has moved downward and forward on the right innominate; that the great sacro-sciatic ligament is made taut by the upward and backward motion of the lower end of the sacrum, which increases the distance between the right lateral margin of the sacrum and the right tuberosity of the ischium. Let the right sacro-iliac joint be immobilized in this position and lesion of the right innominate exists. This lesion is named posterior right innominate, extension lesion of the right innominate, posterior rotation of the right innominate. This lesion will be discussed in another issue.

Place the subject prone on the left edge of the table, allowing his left foot to rest on the floor. Place your hands on the right iliac crest immediately in front of the posterior superior spinous process. Instruct the subject to bend strongly backward, using his arms to lift his body and hyperextend his spinal column and right sacro-iliac joint. Note that the right posterior superior spinous process and iliac crest moves forward in relation to the top of the sacrum, which moves backward and upward on the right innominate; and that the right lateral margin of the sacrum approaches the tuberosity of the right ischium, thereby making lax the right great sacro-sciatic ligament. Let the right sacro-iliac joint be immobilized in this positon and lesion of the right innominate exists. This lesion is named anterior right innominate, flexion lesion of the right innominate, anterior rotation of the right innominate. This lesion will be discussed in a later issue.

It will be observed that the axis of motion on which lesions arise is the same in both innominate and sacral lesions. Lesions are named sacral lesions when the sacrum is moved in the same direction on both innominates; innominate lesions when but one innominate is moved from the normal position and when both are moved, but in opposite directions. No marked change occurs in the pubic joint in sacral lesions. This joint is always changed in innominate lesions.

LOS ANGELES COLLEGE OF OSTEOPATHY.

The A. O. A. Reading and Study Course

ANNOUNCEMENT

Dr. W. B. Meacham, after completing the subject of Physical Diagnosis, has agreed to arrange a course of reading on Phthisisology. The subject of pulmonary tuberculosis is one of paramount importance to physicians of all schools, and the osteopaths should not and will not be behind in the study of this subject. We are fortunate in having Dr. Meacham arrange this course of study, so as to eliminate the non-essentials and assist us in getting at the heart of the subject with the least amount of time and effort.

Another announcement that is of particular interest to the entire profession is that Dr. Franklin Fiske has consented to take charge of the subject of Technique in this course. With the articles now running, he will add references for collateral reading. Dr. Fiske's study and experience along this line eminently qualifies him for this work.

Anatomy — Director, Dr. W. K. Laughlin, Los Angeles. Text book. This subject will be studied by topic and any of the standard anatomies may be used. Subject—Lymphatics—Arteries—Pulmonary—Ascending—Transverse and Descending Aorta — Innominate Right and Left Common Carotids—External Carotid and branches.

Physiology — Director, Dr. Jerome Knowles, Newport News, Va. Text book, Brubaker. Subject — Chapters XXV. to XXVII.

Practice of Osteopathy—Director, Dr. C. W. Proctor, Buffalo, N. Y. Text book, McConnell and Teal, pages 660 to 774.

Principles of Osteopathy—Director, Dr. E. E. Tucker, 18 W. 34th St., New York. Subject:

Gynecology—Director, Dr. Ella D. Still, Des Moines, Ia. Text book, Woodall's Gynecology.

Obstetrics—Director, Dr. Louis P. Crow, Milwaukee, Wis. Text book, Edgar's Practical Obstetrics. Subject—673 to 799.

Hygiene and Diet—Director, Dr. C. W. Young, St. Paul, Minn. Subject—Forethough Minus Fearthought, by Horace Fletcher. Price $1.00. Sold by B. Lust, 465 Lexington Ave., New York City.

Any others who may wish to enroll will please forward their names to the chairman of the A. O. A. Reading and Study Course—Percy H. Woodall, M. D., D. O., 617-618 First National Bank Building, Birmingham, Ala.

Program for the 1910 Annual Meeting

The meeting in California this summer promises to be the best by far of any yet held. The current year has been one of tremendous progress in all things osteopathic, and in the program for the meeting, the committee has in mind along with scientific discourses and demonstrations to include something in the nature of a record of this progress. The trip to the coast through the wonderful western country, should in itself be an inducement though the real incentive to attendance to most of the members will no doubt be the great opportunity the meeting itself offers. The committee can promise much of interest and profit in the program, every member as well owes something to the National Organization and the principles for which it stands, and there is no more loyal or effective way of showing our appreciation than by attending these meetings. From correspondence with our friends of the coast we are assurred that everything in reason to make us comfortable will be forthcoming.

The tentative draught as offered below

is subject to change, but in the main will be presented as outlined. In the address of our President, Dr. E. C. Pickler, we are assured of something very live and to the point. Dr. C. P. McConnell, of Chicago, will give the results of his further investigations along the line presented in New York in March. Dr. Louisa Burns—research results. Dr. Burns will also have something to offer in the section on gynecology. Other well known members who will read papers or give demonstrations are Dr. D. Webb Granberry, of Orange, N. J.; Dr. J. Ivan Dufur, of the Philadelphia College of Osteopathy; Dr. Olive Clark, of California, who will also be heard in the section on gynecology; Dr. H. W. Forbes, Dr. C. A. Whiting, Dr. F. P. Young, all of California; Dr. Charles Hazzard, of New York; Dr. M. W. Peck, of the Massachusetts College; Dr. George Still, of the American School; Dr. S. L. Taylor and Dr. C. W. Johnson, of the Des Moines School; Dr. D. L. Tasker, of Los Angeles; Dr. F. D. Parker who has been making such a splendid success in his canvas for members; Dr. Nettie Bolles, of Colorado; Dr. Franklin Fiske, of New York, and Dr. A. G. Hildreth, of Missouri. The committee is in communication with a number of well known members who at this early date have been unable to decide upon attendance.

The section on Eye, Ear, Nose and Throat will be in charge of Dr. C. C. Reid. The program follows:

The Osteopathic Specialist, Dr. C. C. Reid.

Cataract and Pterygium—Some Misconceptions and Elucidations, Dr. S. M. Hunter.

Otitis Media Catarrhalis Purulenti, Dr. F. P. Millard.

Bony Lesions and Adenoids, Dr. Louisa Burns.

Nose and Throat Work, Dr. H. E. Penland.

Clinics, conducted by Drs. S. M. Hunter and H. E. Penland.

EVENING SESSION

Stereopticon Lecture on Diseases of the Lids, Conjunctiva, Cornea, Iris and Lens, Dr. T. J. Ruddy.

In another issue the program on Gynecology and Obstetrics will be presented.

S. A. ELLIS, D. O., Chairman of Committee on Publication.

TO THE PROFESSION

Dr. Woodall, Director-General of the A. O. A. study course, has requested me to lead the section in Technic; so to get the broadest survey in the briefest time; I wish to request that everyone who has ever written on technic should, at his earliest convenience, inform me of (1) date and place of delivery of article; (2) same of printing, if subsequently printed, and (3) furnish a copy of the article, if possible to do so.

FRANKLIN FISKE, D. O.

1 W. 34TH ST., NEW YORK CITY.

Publisher's Page

DR. BURNS'S BOOKS

Announcement was made in the last issue of the JOURNAL of the early appearance of Dr. Burns's two additional volumes, if the profession is ready for them.

Volume I of her series appeared about a year and a half ago, and sold at $4.50. She has matter now ready for volumes II and III. These will sell at $4 each, but those who subscribe for them in advance will get the two volumes for $5. What is necessary to bringing out the series is the pledge of three hundred to take volumes II and III at $5. Just as

soon as this number of pledges is received by Dr. Burns, the matter will be given to the printer, and within a few weeks the books will be delivered. Write Dr. Louisa Burns, care Pacific College of Osteopathy, Los Angeles, Cal., to-day, that you will take the books.

THE PRIZE ESSAY CONTEST

We presume there are at least a dozen members of the Association now working or thinking on an article to submit in this contest. The conditions are that the essay shall be of not over five thousand words and in the hands of Dr. Charles Hazzard not later than July 1.

The article should be signed by a *nom de plume*, the same written on a plain sealed envelope in which is the author's real name and address. The articles will be submitted to the Prize Essay Committee and the envelopes containing the names will be retained by Dr. Hazzard until after the awards are made.

The prize is fifty dollars. Contest is open to all members of the A. O. A. in good standing.

THE COMMERCIAL WORLD AND OSTEOPATHY

A number of times we have called attention to the need of the profession standing together in securing recognition from commercial concerns who wish to do business with us. In this issue the Standard Insurance Co. offers its services to the profession. It states that it does not discriminate against the osteopath and recognizes his certificate in case of sickness, accident or death. No osteopath should carry a policy in any company which discriminates against him. Just send a letter to the home office of the company issuing your policy and see how it stands on recognizing you. If it does not, cancel the policy and take one with a company that treats you fairly. We can soon bring these concerns to give us a square deal.

The same is true of book publishers. They want our trade, but many of them are dominated by medical interests so that they will not give public recognition to us. They sneak their traveling representative in to see us, but no advertising. We should give our patronage to such houses as will patronize us by advertising to us in our official organ. If they are unwilling to thus recognize us as a profession, we should withdraw our patronage from them. Several of the largest publishers recognize us, notably Blakiston's Sons & Co. Let us deal with these houses. The others will come to us when they see we mean to assert ourselves.

CASE REPORTS AND LEGISLATIVE MANUAL

The JOURNAL has on hand copies of most, if not all, of the twelve series of Case Reports issued by the Association to date. These sell for twenty-five cents a series. Send stamps, coin, or money order for any of the series you need to complete your set.

A number of copies of the Legislative Manual have been ordered within the past few weeks. It is a very valuable book of about 175 pages, containing the full text of every medical and osteopathic law enacted in all the states. You will want it, after the edition is exhausted and more cannot be had. Order to-day; price fifty cents. The JOURNAL, 462 Main Street, Orange, N. J.

The Journal of The American Osteopathic Association

Published by the American Osteopathic Association

247 Fifth Ave., New York N. Y.

Subscription Price, Five Dollars Per Annum, in Advance

COMMITTEE ON PUBLICATION:

S. A. Ellis, Chairman, Boston, Mass. | Wm. Horace Ivie, Berkeley, Cal. | Charles Hazzard, New York

H. L. CHILES, Editor

Editor's Mail Address, 462 Main Street, Orange. N. J.

ASSOCIATE EDITORS:

Otis F. Akin, Portland, Ore.
C. B Atzen, Omaha, Neb.
Louisa Burns, Los Angeles, Calif.
Florence A. Covey, Portland, Me.
Chas. E. Fleck, New York, N. Y.
J. Corwin Howell, Philadelphia, Pa.
W. Banks Meacham, Asheville, N. C.
Earl McCracken, Shreveport, La.
Alfred W. Rogers, Boston, Mass.
Charles C. Teall, Fulton, N. Y.
Ernest E. Tucker, Jersey City, N. J.
H. H. Moellering, Dresden, Germ'y.

A Great Debt We Owe

McConnell has come and gone and his visit has left an imprint on the public mind like no other event in our history. He gave in outline his six years' work, the kernel of which could be told in six minutes, but what a nucleus it is!

Around it can be grouped our whole structure. Step by step he traced the insidious beginnings of disease caused by malposition of bony structure making possible the proof that we have an etiology founded upon a rational hypothesis. In fact it demonstrated the only etiology which can stand investigation, and it makes the germ theory in its elaborations tenable. He shows that pathology must be rewritten—in short he demonstrated the lesion as accepted by osteopaths.

For years we have demonstrated that correction of vertebral subluxations has been followed by a return to normal organic function, and arguing inversely, we have concluded that certain changes were brought about. As a result of McConnell's work our ideas must undergo a change, for our old explanations will not stand and his deductions bring up the much discussed question of nerve regeneration.

And now as a profession do we appreciate the moment of this event? Already many of our truths have been appropriated by the medical profession, notably the innominate lesion and, grudgingly, the vertebral displacement. Fortunately we have much printed data antedating anything they can produce, but we must not let the idea gain root that because the medical investigators have been slow in accepting our truths they are not watching critically our work, for science knows no creed and it is for us to make sure our title to these facts, for the day is not far distant when the credit for these discoveries will be involved.

And right here is where the A. T. Still Research Institute is supposed to come in. The average reader of these lines although he may be a subscriber to the fund, has but a misty idea of where that institution stands in this mad scramble for place. About the only knowledge he has is from the treasurer's receipts, and that hardly fills the void of his straining impatience. The question arises constantly and will not down; is not the present the vulnerable, critical time rather than a distant and nebulous future? Futures have a way of taking care of themselves—not so present opportunities which must be seized and held. Already

there are murmurs of discontent, for it was promised that the income of the fund, however small, was to be for immediate needs rather than hoarded for posterity.

And what is our debt to McConnell? Next to Dr. Still it is our greatest and more than we can ever repay. For six years he has given of his time and money to a degree understood by but few, for we do not realize the work required to produce what can be told in an hour.

Modest to a fault, he has minimized his tremendous sacrifice for this cause, for the reason that he is actuated by the spirit of the true scientist and works for science sake. That is all very well, but can we, as a profession, sit idly by and accept the fruits of such labor and outlay with no material return? There is but one answer, and the only way it can be done is through this Association or the A. T. Still R. I., which was organized primarily for just this purpose.

So far we have developed few investigators. The old Doctor gave forth as a prophet of old the great truths of osteopathy and we have made use of it blindly. McConnell and his assistant, Dr. Farmer, have worked as we know. Dr. Louisa Burns has made an addition to our knowledge from the laboratory, but all else that has been written is founded on perfectly well known anatomical and physiological facts. Five years ago at Denver, McConnell gave his first findings, and we have present the second through courtesy of the council of A. T. S. R. I., but startling as they have been they are only a beginning of what is to come in the work he already has well in hand.

Again, although it records his name among the immortal, can we sit idly by and accept his work with only a word of thanks?

A NEW YORK D. O.

The A. T. Still Research Institute

The A. T. Still Research Institute is pleased to furnish the profession, through this issue of the JOURNAL of the A. O. A, Dr. McConnell's latest results in research work. It is the desire of the Research Institute to present, at the earliest possible moment, the verified conclusions of those working under its auspices and paid, at least in part, from its funds. To this end other papers will follow soon, the next in all probability by Dr. Louisa Burns.

It is evident that the M. D.'s are becoming more and more active in their efforts to find something "just as good" as osteopathy. In a few instances they actually seem to be experimenting for the purpose of determining whether abnormal structure has any deleterious physiological effects and whether the correction of such abnormalities has any thing to do with the restoration of health.

That the osteopathic theory rests upon a solid foundation and that the application of the osteopathic principle is effective are demonstrated daily in our practice. But we must show the scientific critic not only what osteopathy is and does, but why it is sound in theory and how it works in practice, even to the last analysis. This is what our research workers are doing, and it behooves every osteopath and every friend of osteopathy to encourage them in their efforts and help furnish the means by which their work can be carried on.

The findings of the researchers, to prove effective, must be placed before those already interested and those whom we want to interest in our science, particularly those of a scientific turn of mind who are seeking for the truth as applied to human health. In order that private and public libraries may have such data in permanent and convenient form or the Research Institute will reprint

some of the articles already published and others soon to follow and furnish them at the lowest possible cost. Every osteopath ought to have several copies to lend to his friends at opportune times, and also see that libraries, magazines, newspapers, and medical journals are supplied. Thus a continuous campaign of education will be carried on with the least possible expense in such a way as to reach those who are interested and those who should become interested in the scientific aspect of osteopathy.

The other committees at work are making good progress considering the limited means and time at their command. A definite report of their findings during the year will be made in due time.

E. R. BOOTH, PRESIDENT COUNCIL, A. T. STILL RESEARCH INSTITUTE.
CINCINNATI, OHIO.

The Legislative Council

Each state is entitled to a delegate in the National Legislative Council.

Between now and the National convention at San Francisco, each state that has not already selected a delegate to this Council, is urged to do so.

Where the states, as is generally the case, have a standing state legislative committee, it would perhaps be wise for these committees to select one of their number as a delegate to the National Council if their state association has not designated a delegate.

A few years ago Dr. Heine, as chairman of the A. O. A. committee on legislation, recognized the need of some such National forum for legislative topics and organized this council. Its possibilities are not yet generally appreciated, but can hardly be overestimated. The practitioners of each state have their own peculiar problems to solve in their legislative experiences, but there is much in common. In one state the practitioners are successful in their legislative efforts and in another they lose on the same issue and oftentimes it is simply because of different handling of the issue.

Any representative can, at the council, present the essential difficulties which himself and co-workers in his own state have encountered in their legislative experience. Elsewhere these exact difficulties may have been met successfully in a manner not occurring to those of the other section. Much can also be learned from each other of what we might term the technique of legislation. We have several times lost because we have been handed, and have accepted, gold bricks and empty "valuable packages."

It is a good plan to be able to recognize the possible animus of "concessions" in a legislative fight, especially when they are being offered by the American Medical Association.

The possibilities of this National Legislative Council, too, do not cease with consideration of legislation looking toward a just legal recognition of the osteopathic profession, although for some years the activity of the American Medical Association will compel us, as a matter of self preservation, to make such primary.

The discussion of legislative enactments relating to sanitation, general matters of right living or any phase of legislation relating to the general good, can be appropriately considered by this body and thus it be made a power for much good.

As the various states select men to sit in this council, the idea of "passing honors around," should be placed entirely secondary to the selection of men best qualified to bring back the most of value to those who sent them.

Men should be sent who have had some experience and have shown some capacity

in legislative matters, or if such are not available, those who at least have shown an interest and are of the makeup to indicate possibilites. Let us have every state in the Union represented at this council when the association meets in San Francisco.

ASA WILLARD, D. O.,
Chairman Committee on Legislation.
MISSOULA, MONT.

A Separate and Peculiar Practice

The wisdom displayed by the Almighty in the plan pursued for preparing a few hearts to accept the truth He should send will not be questioned. For our purposes we assume the accuracy of the scripture narrative and we enumerate a few facts therein contained to make clear the point we have in mind.

Within a few hundred years after the race had started with a man and a woman, we find all cut off except one family of eight souls. Abraham, a little later is called out into a land of strangers, lest by mingling with those around him he be turned aside into their ways of thought and practice; and a couple of generations later all his descendants are slaves in Egypt for four hundred years to preserve their identity against assimilation. We find Moses, the next hero, when adopted by the royal family, taken away into the wilderness country for forty years until the time for his usefulness should come. Marriage outside of the nation was prohibited and other safe guards instituted. The purpose unquestionably was to hold nation and individual to itself lest it lose itself by assimilation through adopton of the customs around it. And what of the Messenger, when He came? For the purposes in hand we look upon Him as a reformer; and as such, He used the methods that succeed. Unpopular though the message was, from the start it was clear-cut and there was no compromise. The Preacher believed what He preached and relied upon it to do its work. There was no effort to hedge or harmonize with the beliefs and practices of the day; but it was a new message, a new code of ethics and principles of life, and in spite of vast odds and opposition, this new doctrine was set forth with simplicity and sincerity that could not be withstood.

This implied analogy has been drawn with no thought of irreverence. The train of associated facts has been reviewed solely as a study in psychology—for the psychology of our position as a reformation is a truly great concern. We must consider the effect upon ourselves and the effect upon those with whom we have to do.

No one will deny that thus far osteopathy has kept fairly separate and apart from other systems of healing, and no one will question its success as a movement thus far. When we consider the beginning of osteopathy in an obscure, isolated town, its one sponsor with only zeal and singleness of purpose amounting to infatuation as his only claim on public recognition, excepting the success with which he plied his healing art, and now see after a decade and a half this splendid array of men and women devoted to promulgating it and the millions who depend on it for relief and cure,—it must be acknowledged that as a system of therapeutics it is effective and that its manner of presentation to the public has been successful. The one explanation, told in a word, is that the public wanted osteopathy from the osteopath and the great majority of these early practitioners were able to give it.

Viewed from this point, the short course of study given for the first six or eight years served osteopathy well. While men and women were graduated who did not know many things they should have known, most of them knew

enough to stick to osteopathy. They practiced osteopathy as a new system; they were not ashamed of it as such, and the glamor of being "regular" and the privilege of carrying the distinguishing "black bag" did not turn their heads when they saw sick folk made well under their ministrations. This lack of training and lack of legal standing made the practice narrow and limited; in many instances a "specialty," but at least it kept the practitioners distinct and saved the school from being assimilated and lost.

The ridicule and scorn, too, visited upon these pioneers by the medical men, served our cause well; vinegar catches few flies, and this treatment from the established school steadfastly set the face of the osteopath toward his own line of thought and work with his head unturned by the overtures of recognition to-day having effect on the mental attitude of some practitioners. The independent system we take pride in and enjoy to-day, would not be such if Dr. Still and the pioneers had not shown the stubborn singleness of purpose that characterized them rather than the "breadth and liberality' we hear of to-day.

Let no one misunderstand what has been said thus far. We are not speaking against educating the osteopathic practitioner. He should be educated as those of no other school are educated. While the medical course is strung out for other purposes as well as that of best equipping the student for practice, we must not be placed in the position before the public of not meeting the educational requirements of the times: we do favor the highest and most practical training for the needs of his work, rather than copying the medical course; hence we favor the separate board of examination and administration. We have no desire to be narrow, but we do desire to be thorough. Efficiency in caring for the sick is of much more purpose to the physician than his standing in the social world. One may well crucify himself as to this consideration in order to develop the science and perfect the technique of a new school. No pan-therapy will succeed, and he of any therapy will accomplish more than others of that school, all else being equal, who believes most in it. Let him who would practice the healing art, master the system he believes in. Let the people rather than the physician be eclectic. It is no reflection on the new school that people come to it for some troubles and go to the family physician or the surgeon for other conditions. Time will teach them more as it has taught them this much. The real concern is that we be able to do successfully what is entrusted to us. It is infinitely more essential to the development and well being of osteopathy that for a time it should be regarded (not that it be, but that some should regard it) as a specialty which is effective as far as it goes, than that its practitioners in their efforts to get away from this idea, lose the characteristic and hence lose their efficiency.

In this practical age, the character of work we do rather than the position we assume to occupy, will determine our place. If we do what others cannot do (and there is no excuse for our existence if we cannot), we need have no fear in doing what comes to us, and leaving the future to work out our place. What is regular to-day was irregular yesterday; and what is irregular to-day may be regular to-morrow: efficiency and not regularity is the test. Competency and efficiency will make a place for him who possesses these qualities, but he who has them not would feel the sustaining support of being "regular."

While it would be desirable for numbers of osteopathic physicians to be on the staffs of our state and county institutions, hospitals, etc., and be recognized in the "congresses of scientific and medical

men," these recognitions will come if we have something that the others cannot deliver. Let us not be over anxious to "seem," but let it be our concern to "be." It is entirely possible for recognition to come too rapidly. Many a competent and consistent osteopath has lost the point of view on account of some bribe being handed him under the guise of "recognition" shown him by medical organizations. With no thought of being bitter or narrow, we recall the line of Homer, "Beware of the Greeks bearing gifts."

For the next few years let us develop osteopathic technique; let us prove by laboratory methods the principle we affirm to be at the basis of health and disease; let us make practical our course of instruction, strengthen our schools, and fill them with competent students; let us maintain the highest ethical relations with the public and with one another; let us secure that form of legislation that guarantees to the osteopath the development of osteopathy, and let us leave the question of the place we shall fill in the social scale, in the public estimation, and the public economy to be worked out as we may deserve; for that recognition which finds the man, however obscure, whose services public welfare requires, will see that the proper seat at the feast is assigned us. Rest assured that if our work is more effective than any other, the world will make a beaten path to our door.

While belief that a therapeutic measure or system is based on truth does not make it so, yet this belief in it is essential to successful administration of it. We would not have one juggle with his convictions; but thrice fortunate he who has full confidence in the measures he employs with the sick. Thrice fortunate the osteopath whose training has led him to believe in the principle underlying his school of practice, and whose mechanical skill enables him to detect and correct the cause of disease. Such an one has back of him its only scientific explanation and has within him the surest element and earnest of success, the convction that he is right. If the new practitioner and he who begins, on account of failure, to doubt, could grasp the cause as being his lack of perfectness rather than the principle being at fault, and study the body and develop his technique, rather than study other systems, what a change would be wrought! We need not argue the soundness of the principle under our practice. As its philosophy stands to-day and as the theories of other schools stand, it does not permit of mingling; it will not mix; and he serves best, who, being unable to give it whole-hearted support, finds a system with which he is in harmony.

The Coming Meeting

We must have a big meeting of the Association at San Francisco the first week of August

There was a good meeting in Denver five years ago. The Association has more than doubled its membership since that meeting when it reached the one thousand mark. There are a great many more practitioners within a night's ride of San Francisco than there were within the same distance of Denver, and while those of us from the East will have a day and a half more ride than to Denver, yet such a ride will it be; then we have five years more of enthusiasm and convention-habit than we had then.

The mention of the Denver meeting brings up a remarkable incident: it was at the Denver meeting that Dr. McConnell, then President of the Association, gave the first laboratory proofs of the correctness of the osteopathic idea, and at San Francisco he will give what he

has developed since, to which his demonstrations in New York were introductory. This will be one of the great features of the meeting, but there will be many others as the report from Chairman Ellis, printed in this issue shows.

Nothing has developed the osteopath so much as the meetings of their organizations. These meetings are an evidence of progress and a guarantee of future development. No one who can possibly attend has a right to stay away. The trip through the wonderful Western country with stop-overs and side-trips at points of interest, and a wide option of routes, is an education, and pleasant parties on the train will make the time short and annihilate the distance. A good rate is assured us: $93 for return trip from New York; $78 from Buffalo; other points at proportionate rates. The City of San Francisco and the osteopathic organizations are doing all they can to make the stay on the coast full of interest and pleasure. The St. Francis Hotel, with headquarters and meeting place all under one roof, will give us the best of facilities and the least of trouble. The social side of the meeting is going to be of the highest order. All of these call upon every practitioner to attend. We prefer, however, to appeal to the membership of the Association on the grounds of the duty we owe osteopathy, and a privilege we owe themselves. A professional man or woman owes a duty to his profession. That duty he cannot pay unless he is a part of its movements and a part of its progress and advance.

Attend the annual meeting of 1910.

Legislation

The results of legislative efforts the past winter seems to have been a draw. It is not probable that the measures introduced by the osteopaths in the District of Columbia or Rhode Island, will pass at this session. In Ontario the measure was withdrawn.

In New Jersey a composite Board bill was forced through the legislature in spite of the fight the osteopaths put up against it at every turn; but the measure was vetoed by the governor. Though unsuccessful we should not call any of these efforts failures. Many of them were in the highest sense successes. The moral effect upon the profession as it brings them together and gets them acquainted, and the educational effect upon the public, if the papers are with us, is a great accomplishment. A well planned, wholehearted, united fight is worth the effort if the entire profession is in cooperation, and the press sees the issue clearly.

In this respect New Jersey has had a most remarkable campaign. The papers of the state were impartial, and the great majority of them were the active champions of the osteopathic fight for the right to manage its affairs independently of the medical trust. A number of the strong papers of the state saw the issue very clearly, as did many public men, including the governor. The question arises, when these people without technical training can see that independent board best serves our purposes, why it is that any member of the profession can't see it. The practitioners of the state without exception, were hearty in support of the society in its efforts to secure for New Jersey an independent board.

On the eve of a general election, it is an unfavorable time for osteopathic legislation. Next year when this feature does not operate, and the legislatures of practically all the states are in session, we hope for a general fight with a solid profession for a single board, both in the states where we have no legislation at this time, and in several states where the composite board is not working fairly to us.

The A. M. A. at Washington

We print herewith the full text of the bill introduced by Senator Owen, of Oklahoma, in the interest of the great American medical monopoly. A Senator from Oklahoma is the last person who would be expected to father such a measure. He evidently did it innocently, and is yet unaware of what he has done. He sent the JOURNAL a personal letter with a copy of his great speech supporting the bill and the text of the measure itself.

President Taft recommended some such measure in his general message to Congress. Roosevelt had been urged to do this, and although he made Dr. Wood head of the army, it is reported that he said a bureau chief and not a Cabinet Secretary was sufficient to look after health matters, Perhaps the idea of the Medical Association in having Senator Owen present it after Taft suggested it, is to give it the appearance of being nonpartisan and called for by a popular demand. Dr. Reed, of Cincinnati, is said to be close to President Taft. Perhaps we can get close enough to some of the Senators constituting the committee to which the measure was referred to show them that the great politico-medical machine is back of the measure and has been for years and that if such a measure is passed we shall have a medical Pope, or more properly, a medical Czar in Washington.

Senator Owen's great effort urging the measure, opens up with the statement that there are 600,000 unnecessary, preventable deaths in this country annually. He figures out just what commercial value each of these who thus unnecessarily die would be worth to the state, but he fails to calculate just how much the fees would be worth to the members of the A. M. A., who no doubt would be alone in this great life-saving scheme with the secretary of the A. M. A. a Cabinet officer!

Coincidently with the introduction of this measure in Washington by the A. M. A. to save nearly a million lives a year, a branch of this organization was introducing a measure in New Jersey to allow the osteopaths under certain conditions and restrictions, to treat a limited number of chronic ailments only. That looks like cutting down the death rate!

The JOURNAL wrote Senator Martin, Chairman of the Committee to which the measure is referred, asking if the bill would be reported at this session, and if so, if a hearing would be granted, but no reply had been received at time of going to press.

If the American Medical Association favors this measure, as it unquestionably does, we need no further reason for opposing it. The A. M. A. has given itself over so unreservedly to politics within and without itself to the disgust of the better element of the profession. Its troubles are multiplying, however, and some such measure as this is necessary to its retaining its hold.

The text of the bill and the names of the Senators composing the committee follow:

A BILL ESTABLISHING A DEPARTMENT OF PUBLIC HEALTH AND FOR OTHER PURPOSES

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby established a Department of Public Health under the supervision of the Secretary of Public Health, who shall be appointed by the President a Cabinet officer, by and with the consent of the Senate, at a salary of twelve thousand dollars per annum, with like tenure of office as other Cabinet officers.

Sec. 2. That all departments and bureaus belonging to any department, excepting the Department of War and the Department of the Navy, affecting the medical, surgical, biological, or sanitary service, or any questions relative thereto, shall be combined in one department, to be known as the Department of Public

Health, particularly including therein the Bureau of Public Health and Marine Hospital Service, the medical officers of the Revenue-Cutter Service, the medical referee, the assistant medical referee, the surgeons and examiners of the Pension Office; all physicians and medical officers in the service of the Indian Bureau, or the Department of the Interior, at old soldiers' homes, at the Government Hospital for the Insane, and the Freedman's Hospital and other hospitals of the United States; the Bureau of Entomology, the Bureau of Chemistry and of Animal Industry of the Department of Agriculture; the hospitals of the Immigration Bureau of the Department of Commerce and Labor; the emergency relief in the Government Printing Office, and every other agency of the United States for the protection of the health of the people of the United States, or of animal life, be, and are hereby transferred to the Department of Public Health, which shall hereafter exercise exclusive jurisdiction and supervision thereof.

Sec. 3. That the official records, papers, furniture, fixtures, and all matters, all property of any kind or description pertaining to the business of any such bureau, office, department, or branch of the public service is hereby transferred to the Department of Public Health.

Sec. 4. That the Secretary of Public Health shall have supervision over the Department of Public Health, and shall be assisted by an Assistant Secretary of Public Health, to be appointed by the President, by and with the advice and consent of the Senate, at a salary of six thousand dollars a year, with such duties as shall be prescribed by the Secretary not inconsistent with law.

Sec. 5. That the Secretary of Public Health shall be authorized to appoint such subordinates as may be found necessary. There shall be a chief clerk appointed at a salary not to exceed three thousand dollars a year, and such other clerks as may from time to time be authorized by Congress.

Sec. 6. That the officers and employees of the public service transferred to the Department of Public Health shall, subject to further action by Congress, receive the salaries and allowances now provided by law.

Sec. 7. That it shall be the duty and province of such Department of Public Health to supervise all matters within the control of the Federal Government relating to the public health and to diseases of animal life.

Sec. 8. That it shall gather data concerning such matters, impose and enforce quarantine regulations; establish chemical, biological, and other standards necessary to the efficient administration of said department, and give due publicity to the same.

Sec. 9. That the Secretary of Public Health shall establish a Bureau of Biology, a Bureau of Chemistry, a Bureau of Veterinary Service, a Bureau of Sanitary Engineering, reporting such proposed organizations to Congress for suitable legislation relative thereto.

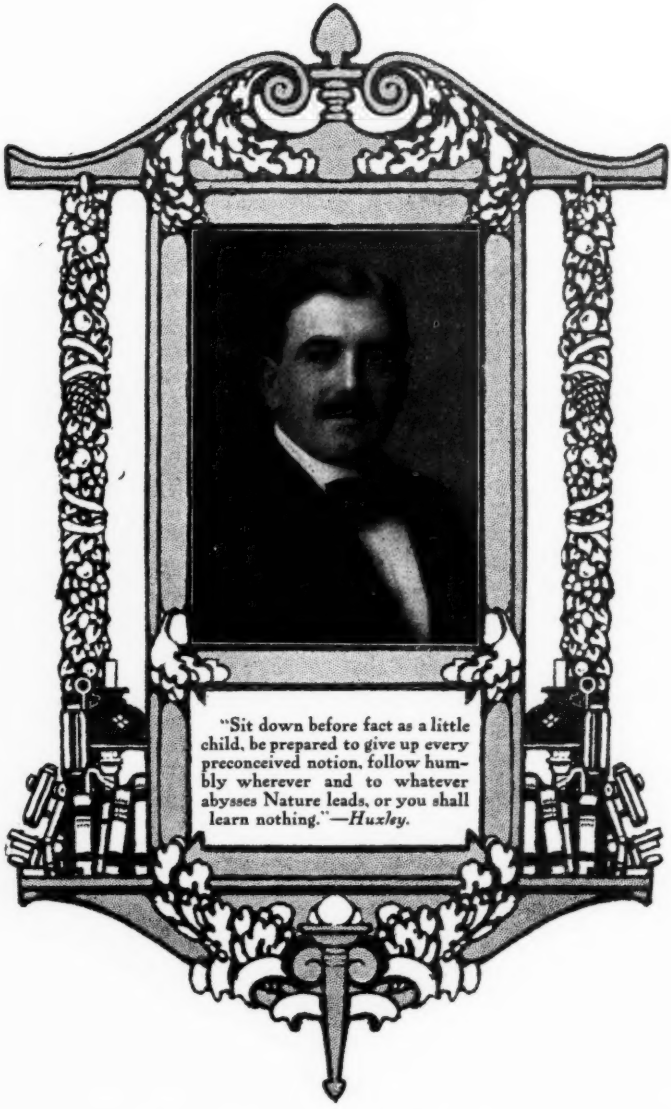
Sec. 10. That all unexpended appropriations and appropriations made for the ensuing year shall be available on and after July first, nineteen hundred and ten, for the Department of Public Health, where such appropriations have been made to be used by any branch of the public service transferred by this Act to the Department of Public Health. It shall be the duty of the Secretary of Public Health to provide, on proper requisition, any medical, sanitary, or other service needed of his department required in another department of the Government.

Sec. 11. That any other department requiring medical, surgical, sanitary, or other similar service shall apply to the Secretary of Public Health therefor wherever it is practicable.

Sec. 12. That all officers or employees of the Government transferred by this Act to the Department of Public Health will continue to discharge their present duties under the present organization until July first, nineteen hundred and ten, and after that time until otherwise directed by the Secretary of Public Health or under the operation of law.

Sec. 13. That all laws or parts of laws in conflict with this Act are hereby repealed.

Senate Committee on Public Health and National Quarantine, to which this measure is referred, consists of the following Senators: Thomas S. Martin, of Virginia; Samuel D. McEnery, of Louisiana; Charles A. Culberson, of Texas; Duncan U. Fletcher, of Florida; Chauncey M. Depew, of New York; Henry A. du Pont, of Delaware; Jonathan Bourne, Jr., of Oregon; Reed Smoot, of Utah; Joseph L. Bristow, of Kansas; Coe I. Crawford, of South Dakota.


"Sit down before fact as a little child, be prepared to give up every preconceived notion, follow humbly wherever and to whatever abysses Nature leads, or you shall learn nothing."—*Huxley.*

[Reproduction of Cover of Souvenir Program]

Dinner given by the Osteopathic Society of the City of New York and the New York Osteopathic Society, to Dr. Carl P. McConnell of Chicago, in recognition of the Brilliant work done by him for the A. T. Still Research Institute, Hotel Knickerbocker, March Twenty-sixth, 1910.

The McConnell Lecture and Banquet

No more significant event has taken place in osteopathic history than the lecture of Dr. McConnell and the banquet given to him by the osteopathic societies of the State and City of New York, on March 26.

The room in which the lecture was held is said by the hotel people to seat more than a thousand people. It was filled. Many osteopaths had friends with them, and a number of the newspapers of New York had representatives present. The *New York Times,* a paper which has never given osteopathy recognition, had a man present at the entire lecture, and it printed what was perhaps the best writeup of osteopathy ever printed in the East. *The Herald* printed a double column advance notice with a photograph of Dr. McConnell. *The Telegraph* and *Brooklyn Eagle* and many other metropolitan papers gave considerable space, some as much as two columns. On the whole, the press of the city did as much as could have been expected of them. It was a distinct recognition, and the encouraging thing about it is this, that these newspapers simply reflect public opinion and print what the people want or will read.

Dr. McConnell's description of his work, his estimate of what it proved, and his discussion of pathological conditions pictured by the slides, was most entertaining in spite of its heavy character. All present seemed to appreciate that it was an epoch-making event in the life of osteopathy.

Dr. W. L. Buster, president of the State Society, presided at the afternoon session, and read a letter and telegram from the Executive Committee of the San Francisco organization, calling attention to the A. O. A. meeting, promising a fine program and a good time and urging a full attendance.

The Banquet was the most elaborate affair that was ever attempted by the osteopaths. It was well arranged and the large hall in which the afternoon session was held was comfortably filled, when Dr. George W. Riley, president of the city organization, called the meeting to order. Dr. Riley, who made a most excellent toast-master, presented first Dr. C. M. Turner Hulett, chairman of the Board of Trustees of the A. T. Still Research Institute, to set forth the need of such an institution for the development of the scientific side of osteopathy. He spoke as follows:

Dr. Huletts's Address

On June 22, 1874, osteopathy was born. On that day there came to Dr. Andrew Taylor Still, the father of osteopathy, the first glimpse of a principle underlying certain manipulative tricks which he had occasionally used in his medical practice, and from that time he sought a fuller understanding and confirmation, and a more extended application, of that principle. For a score of years he delved and dug alone. He became convinced that what he had at first seen darkly was a great principle of nature, and in the early nineties he gave the results of his labors to the world. In 1892 the first charter for an osteopathic college was granted. There are now eight established osteopathic colleges with a student enrollment second in number among the schools of practice, the regular colleges being first, and the homeopathic colleges third in number of students. The first law was passed in 1896, in Vermont, and now most of the states have laws upon their statute books to regulate the practice of osteopathy. There are five thousand practicians in this and a dozen foreign countries. The profession is well organized, with a vigorous and aggressive national organization, forty-one state organizations, and many district and local societies.

Such a movement developed in less than twenty years and progressing with unabated vigor, suggests the possession of a vitality and a force which alone would indicate qualities justifying its existence. Nevertheless the question might be raised of the propriety of establishing another school of practice in the conservation of health. The answer to that question is two-fold. The movement is justified by its results. Without the help of external influence or presige, without propaganda, its marvelous growth has been because of sick people made well.

Its chief justification, however, lies in its being founded on fundamental principles of science. Human knowledge begins in the observation of phenomena. It is established only upon the discovery of a principle by which the observed phenomena may be interpreted and correlated. During this process a theory serves as a tentative substitute for the principle. Medicine, through the centuries, has been collecting real and supposed facts. It has tried from time to time to organize these facts under one or another of many theories.

"And poisons must, as Galen held,
By counter-poisons be expelled."

And the theory of opposites held persistent sway. At the other extreme is the homeopathic theory of similars. But the principle sufficient for the correct interpretation of all their facts still eluded them. There was too much yet to learn of life, of the body, in health and disease. But the physician unlike most of the world's other workers, cannot confine himself to only what he knows. At the bed-

side he must deal with the whole content of life, and of this content much is yet unknown. Nature does not regard the physician's lack of knowledge, and insists that her problems be treated as units. The physician's only recourse, therefore, is to project into the unknown a tentative hypothesis as a scaffolding from which he may direct his procedures. Different hypotheses constitute the basis of difference between schools of practice. Without at this time entering into any analysis, it may be said that the differentiation between the older schools of practice is now on secondary matters. There is a fundamental postulate accepted by them all. This common bridge into the unknown postulates the inefficiency of nature, in fact or in function, and that remedies in disease must supplement this deficiency or must artificially stimulate a lagging nature to a reluctant performance of her duty; that it is the domain of the art of medicine to assist, to add to, to force nature's powers; to spur up nature to increased action, or to add to her power to act. The work of biologists and physiologists in the last half century has been accepted as confirming this hypothesis. The principle that all vital action is the expression of the response of the cell-unit in the organism to changes in its environment, these changes acting as physiological stimuli, eliciting the response by the cell; the character of this response varying according to the character of the stimulating agent employed; has been accepted as the scientific basis of experiment in medication. Drugs, electricity, heat, light, molar agents, even mental forces, have been subjected to exhaustive trial and experiment by the medical profession in the effort to establish a remedial system of exact procedures for exact results.

They failed. They were looking far afield while that which they sought was lying at their feet. Dr. Still recognized the stone rejected by the builders. The duty now of the osteopathic profession is to determine its place, whether it is indeed to be the head of the corner.

Osteopathy is not a negation. It is not simply anti-drug. Its philosophy is constructive. Instead of inefficient nature, it postulates all-powerful nature; that life, being not the product but the master of matter, life expression in organic function is limited, not in its original force, but by the degree of development and the physical integrity of the structure through the expression is given; that the response of the cell originates in and is determined by the cell and not by the drug or other stimulating agent; that the disturbance of function we call disease is normal to the existing conditions, representing often the effort of nature to correct the disturbance; and is to be remedied not by forcing a change of cell action, but by restoring normal invironmental conditions, when normal cell action will follow and the body will at once resume normal physiological functioning. The body will right itself when disturbing conditions are removed. The fundamental causative factor in disease is obstruction, and the fundamental remedial principle is the removal of obstruction. The vital, chemical, physical, and biological forces within the body tend constantly toward the normal, and these life forces, when obstructtion is removed, are for the body a well of living water springing up into normal physical life.

The osteopathic conception applies to the entire remedial domain. Surgery is osteopathic. A foreign growth, a diseased organ which has become a menace to the rest of the body, the result of accident or injury, are obstructions, and their removal is strictly an application of the osteopathic principle. Diet, hygiene, sanitation, right brain-use, all are osteopathic, in that they are the adjustment of environmental conditions so as to be favorable to the removal or prevention of obstruction to normal life expression.

This brief outline suggests the difficulties of the profession in the development in detail, of the osteopathic system. The profession must extend, prove, and perfect its distinctive methods of treatment to meet the imperative demands upon it. It must restudy and sift medical lore, and revise from the osteopathic viewpoint, and restate in osteopathic terms, the modicum of truth contained therein. The colleges, without endowment, and served often by men whose only compensation is the consciousness of work well done, must create a curriculum co-extensive with that of medical colleges, but osteopathic instead of medical.

Our record on these things is open to the world. We have accomplished something. We have made mistakes. We have no apologies to offer. But we realize that our debt to the world is not all provided for, not all in process of discharge. While our practicians are proving the truth of our principles by the results of their daily work, we need not only the correction and confirmation of these results, but more we need the direction of our efforts to make our services to humanity more efficient, which can come only from careful and exhaustive scientific research and investigation. Colleges and individuals have done something along these lines under the restrictions of prior demands upon their time and resources. The past accomplishments of osteopathy, both negative, in relief from hazardous and harmful procedures and remedies, and positive, in restoring to health may for whom otherwise there was no hope, have been largely from the application of the obvious aspects of the osteopathic principle.

We may expect still greater achievement in hope and relief to suffering humanity from more exhaustive and exact knowledge of nature's laws.

The conviction that we must make special provision for this work first found definite official expression at the annual meeting of the American Osteopathic Association in 1906, in the report of the Committee on Education, recommending the establishing of a foundation for research work and post-graduate teaching. Twenty thousand dollars was subscribed by members of the profession at that meeting, which has since been increased to $75,000, as the nucleus of an endowment fund for the support of an institution devoted to this special work. At the next annual meeting a plan of organization and management presented by the Board of Regents, was adopted by the Association, and The A. T. Still Research Institute was founded.

The Institute is under the management of a Board of twenty-seven Trustees, who are nominated by the Trustees of the American Osteopathic Association, and includes the chairman of two standing committees. A portion of the Trustees may be and in fact are now business men outside the profession. The Finance Committee of the Board receives and collects subscriptions to the endowment (a Trust Company as Depositary attending to the routine of this work), and invests the funds. The Council, composed of seven members of the Board of Trustees, is charged with the management of the Institute and the disbursement of the income derived from investments. The Council is to employ a faculty, provide buildings, laboratories, hospitals, and other equipments, and to direct generally the policies and operations of the Institute. The Council is making the most of its resources. By a systematic search of records and literature, and by correspondence, it has collected much data pertaining to original investigations by both colleges and individuals. It has sought for cooperation and coordination in all such work now under way. From all this it is formulating comprehensive plans for the future, which it can put into operation as rapidly as funds permit. Related lines of work are now being carried on by a number of persons under the auspices of the Institute, these persons constituting practically a faculty *in absentia*. We hope soon to put these investigators into properly equipped laboratories with their time devoted wholly to the work they are fitted to do. Their assistants will be members of the profession who desire to pursue special post-graduate study. Thus will nature be induced to still further give up her secrets. Thus will our knowledge of the causes of diseases continue to grow, and our efforts for its cure become increasingly effective.

In the distant future the unknown which seems now so large will dwindle and disappear. Established principle will replace theory, and there may be but one school of practice. Whether that ultimate perfected system shall prove to be perfected osteopathy; or whether osteopathy shall be one of the elements entering into its composition; or whether osteopathy is only a stage of progress, only one long step in the evolution, we shall be content. We will meet the present responsibility. We will discharge the present duty.

A message of congratulation was sent to Dr. A. T. Still.

The following is the list of speakers and invited guests: Rev. W. L. Fisher, New York; Dr. C. M. T. Hulett, Cleveland, O.; Mr. Edward J. Rice, New York; Mr. S. S. Mc Clure, New York; Mr. Trumbull White, New York; Mr. Joe Mitchell Chapple, Boston; Hon. Martin W. Littleton, New York; Mrs. Cecil R. Rogers, New York; Mr. Alexander Black, New York; Hon. George H. Shibley, Washington; Mr. Arthur Brisbane, New York.

Several of the speakers made strong and telling addresses. Wit, humor, and song, blended to make it a most pleasant occasion.

In speaking of the banquet next day, Dr. McConnell said that the most significant thing about the event was that such men as Arthur Brisbane, Joe Mitchell Chapple and others present felt justified in coming before the public and bearing tribute to what they knew of osteopathy and what it had done in their families. In selecting the speakers, this point was kept in mind by the committee that only those should be asked to appear who knew personally of osteopathy and were willing to thus go on record as espousing it.

The souvenir program used at the banquet was one of the handsomest ever used at any function in New York. The special cover design is reproduced with this article. The whole event was a success and carried out the object had in view, viz; to give the lecture the fullest hearing and make it the occasion to give osteopathy the widest possible publicity. The joint committee of arrangements were: Drs. G. W. Riley, chairman; Joseph Ferguson, secretary; C. R. Rogers, treasurer; C. S. Green, C. E. Fleck, G. W. Burns, C. F. Bandel, H. L. Chiles, W. L. Buster, Charles Hazzard, G. H. Merkley, J. B. Buehler, D. N. Morrison, J. A. DeTienne, C. F. Fletcher, C. H. Whitcomb, L. Mason Beeman, H. E. Hjardemaal, D. Webb Granberry.

Following are a few of the newspaper notices:

The *N. Y. Herald* printed in advance the morning of the lecture, giving a double column space and printed a photograph of Dr. McConnell. A part of its notice is below:

Osteopaths from all over the country are in the city to-day to attend a lecture this afternoon and evening by Dr. Carl P. McConnell, president of the American Osteopathic Association, and a banquet to-night, both events taking place at the Hotel Knickerbocker, and under the auspices of the two leading osteopathic societies of this city.

The occasion for the honor shown Dr. McConnell, who is from Chicago, is his achievement, as head of the Osteopathic Research Committee, in bringing osteopathy for the first time within the province of laboratory experimentation.

The work has been going on for several years and Dr. McConnell's lecture practically is the first report of what is called, for the founder of osteopathy, the A. T. Still Research Institute. The lecture will be illustrated with lantern slides and the event is considered of such importance that Dr. C. T. Hulett, of Cleveland, chairman of the Board of Trustees of the institute, has come on to make the opening address at the banquet. * * *

N. Y. American, March 27, said: Enthusiastic tribute was paid last night to Dr. Carl P. McConnell, of Chicago, at a dinner given by the osteopathic societies of the city and of the State of New York in the Hotel Knickerbocker.

Although young in years, this adept in the science of the manipulation of the framework of the human body has made possible an accurate demonstration of the theory of osteopathy, and his name is now linked with that of the founder of this school of healing, Dr. A. T. Still, of Kirksville, Mo., to whom a telegram of congratulation and greeting was sent. The investigations of Dr. McConnell have been conducted in the A. T. Still research laboratory, in Chicago, over a period of five years, and it was of them that he spoke yesterday afternoon before a large audience. His lecture was illustrated by numerous lantern slides of micro-photographs. There were present, besides practitioners from all parts of the country, many laymen who are interested in the matter.

The physician has obtained material by causing slight lesions in animals while they are under the influence of chloroform and then studying the effect of these derangements on the nerve and muscular tissue of their bodies after death.

At first blush it would seem strange, as the physician declared that indigestion might proceed from the fact that one of the vertebrae of the spine is out of adjustment. Headache might be easily due to a disturbance of the upper spinal column, and many an illness of the internal organs, he said, may be traced to a twisted rib. He showed by means of his magnified studies of tissue how a disturbance of certain nerves where they proceed from the great trunk of fibres, the spinal cord, may result in defective nutrition. * * *

Several hundred osteopaths from all over the country gathered here yesterday to hear Dr. Carl P. McConnell, of Chicago, give the result of his five or six years' experimental labors in the A. T. Still Research Institute at Chicago. His lecture was of importance to the osteopaths, who have been waiting for him to prove the theory of osteopathy by laboratory experimentation. They consider that he has succeeded.

Dr. McConnell gave his first lecture yesterday afternoon at the Hotel Knickerbocker, illustrating his points with micro-photographs and the stereopticon. Four or five hundred persons were present. At the close of the lecture they warmly applauded him.

It was explained by Dr. McConnell's assistants that the osteopaths had long been waiting for complete proof of their theory by laboratory experimentation. Holding that most of man's bodily ailments, particularly chronic ills, are due to spinal lesions, the osteopaths have heretofore had only clinical proof of that theory; that is, an osteopath finding a man suffering from a certain disease would treat him on the assumption that it had been caused by trouble along the spine and so effect a cure.

It was the aim of Dr. McConnell and his assistants to cause all sorts of diseases on healthy dogs and then to examine the nerves running from the spine to the part affected, the condition of these under the microscope, as well as the blood vessels and tissues, noting and also to mount on slides parts of the affected dog to be used for exposition of the experiment at lectures throughout the country.

Dr. McConnell explained in the beginning that the backbone is affected sometimes by a cold, by a fall, or by a slight jostle, any of which may be forgotten by the patient. He told how he had given one dog the goitre by kinking the neck bones. A few days afterward there appeared a swelling in the dog's neck, and then the dog was killed and the neck examined, whereupon it was found that the goitre had been caused by a lesion interfering with the nerves running to the affected part.

Dr. McConnell's assistants explained to the reporters at this point that osteopaths believe in the germ theory, but hold that most germs do not cause trouble until the part breaks down through lack of nutrition, due to nerve disturbance, and this nerve interference is due to the backbone ills.

Dr. McConnell showed on slides specimens taken from a dog thus affected with Bright's disease. A few days after the backbone had been affected, he said, evidences of the disease were found. The dog was killed and dissected. Dr. McConnell's slides showed how the lesion had affected the parts.

The nerves from the affected section of the backbone had been more or less atrophied, small blood vessels had broken down, their corpuscles breaking through the walls, and the kidneys showed the effect of mal-nutrition, which had brought on the Bright's disease.

He showed slides relating to a case of indigestion similarly given to another dog. He told how, in some cases, dogs and cats were affected with ordinary diseases in the same way, and then cured by osteopathic treatment.

Dr. McConnell cautioned his hearers against overtreatment. Not infrequently the cure needed time after it had been arranged for by treatment of the spine. While the nerves and weakened parts were using up time in getting strong again after sufficient treatment had been given, the practitioners and their patients should be patient under the continuance of some of the symptoms, which would eventually disappear.

It was stated by the doctor's assistants that the practice of osteopathy is growing rapidly all over the country. Though it is of comparatively recent growth here, there are more osteopathic students in the colleges now, it was declared, than in all the homeopathic and eclectic institutions together.

Dr. McConnell is in the city as the guest of the New York City and New York State Osteopath Societies, under whose auspices his lecture was given. He is an ex-President of the American Osteopathic Association, and author of text books on the practice of osteopathy. The fund for the experimentation work which he and his assistants have been doing, was raised by subscriptions of osteopathic practitioners all over the country.

New York Times, March 27, 1910.

Following are a few of the out-of-town guests who registered at the Banquet.

C. E. Acorn, Boston; K. L. Acorn, Boston; A. M. Benedict, Pa.; C. D. Berry, Rochester; I. Bissonette, Buffalo; J. A. Boyles, Baltimore; A. A. Brown, Troy; M. N. Brunner, Pa.; C. D. Camp, Rochester; E. M. Casey, Binghampton; F. E. Cave, Boston; W. C. Chittenden, Newark, N. Y.; C. F. Cook; J. M. Diehl, Elmira; J. I. Dufur, Phila.; S. A. Ellis, Boston; M. A. English, Washington; R. P. Evans, Binghampton; G. Evans, Pa.; A. Galbreath, Philadelphia; G. W. Galbreath, Philadelphia; W. O. Galbreath, Philadelphia; F. L. Gehring, Pittsburg; A. H. Gleason, Mass.; W. L. Grubb, Pittsburg; C. G. Hatch, G. T. Hayman, Phila.; E. B. Hart, Pittsburg; M. V. D. Hart, Albany; T. J. Howerton; G. D. Kirkpatrick, Washington; G. W. Krohn, Harrisburg; S. Lichter, Peekskill, R. C. Malcolm, Washington; J. A. MacDowell, Troy; C. J. Muttart; E. L. Meyers; J. H. McDowell, Troy; F. H. McCall, Atlantic City; M. C. Moomaw, Penn.; F. J. McGuire, Binghampton; H. A. McMains; Harrison McMains, Baltimore; A. P. Patterson, Wilmington, Del.; Vernon Peck, Pittsburg; G. E. Phillips, Schenectady; W. L. Roberts, Penn.; E. M. Rosengrant, Penn.; S. E. Russell, Buffalo; H. L. Russell, Buffalo; S. T. Rosebrook, Maine; Mrs. G. H. Shibley, Washington; W. M. Smiley, Albany; A. M. Smith, Hagerstown; O. J. Snyder, Philadelphia; H. D. Sweet, Glens Falls; G. Tallent, Mass.; K. Talmadge, Washington; C. C. Teall, Fulton; E. W. Thompson, Schenectady; E. Tracy; H. A. Thornberry, Conn.; H. M. Vastine, Harrisburg; H. L. Van Deusen, Conn.; W. B. Van de Sand, Penn.; R. J. Walker, Mass.; A. E. Ware, Albany; C. H. Wall, Providence; G. C. Wheeler, Boston; R. H. Williams, Rochester.

Correspondence

The French View of Therapeutics

The following paragraphs from the regular Paris letter of the Boston Medical and Surgical Journal of March 26, will surely be of interest to the members of the A. O. A.

"Any French professor will admit without difficulty that the weak side of their school of medicine is materia medica and therapeutics; you have only to be present at one of the oral examinations for students in order to be convinced beyond peradventure of this fact. The French medical student in Paris, with the exception of one or two well-known services, lives all through his hospital years in an atmosphere of even more than therapeutic skepticism,—something akin to scoffing. But as, nevertheless, he is obliged to get through that examination somehow or other, when the date approaches he crams himself with a certain amount of names and figures and wriggles through as best he can, bowing before the sarcasms of the professor in that branch, in the hope of surviving to fight some other day! When we reflect that the *ultima ratio* of medicine is to cure the patient, and that we fondly imagine that this end we accomplish through our therapeutic endeavors, it becomes a source for wonderment that this condition of therapeutic incredulity should be so firmly inculcated into developing minds by a body of teachers who must know that it will be a millstone around their necks which it will cost them years of strenuous endeavor to more or less get rid of later on. * * *

"Have you ever considered what we medical men really are, when you bring the question down to its fundamental basis? The active remedies we use are all poisons,—some of them (aconitin, hydrocyanic acid) among the most violent poisons known. When we start in to treat a sick person, who is likely to be

a man already poisoned, we proceed to administer a poison,—to poison him a little farther, in short! In other words, we are official poisoners, licensed to poison by law, and our art consists in administering the right poison in a given case, and in poisoning the victim just enough and not too much! Queer profession, isn't it?"

RALPH KENDRICK SMITH, D. O.
BOSTON, MASS.

Amalgamation

Unless it has some definite function to perform, amalgamation would be rather a disadvantage; it would hamper both local societies and the national society. Amalgamation merely as somebody's big dream, without a definite work to perform, would not long survive its own uselessness. We could take a lesson from physiology there, and realize that an organ or function that has no use or that does not carry out its use is an idle hand for the missing link to put some mischief into.

Is there a definite purpose that could be served by an amalgamation of the national and the local societies? In the first place, amalgamation is constitutionally impossible for incorporated societies without the legal dissolution of one and its reorganization under the constitution of the other. Affiliation, however, is possible, and would serve all the uses that are desired.

One purpose which such an affiliation could serve would be of vast benefit. If the subjects for discussion at any national meeting were announced a year or even six months beforehand, and the local societies invited to discuss them at their meetings during the year, then at the said national meeting a finished and complete review of the opinion and experience of the whole profession could be obtained. Certainly this would lend interest to the local discussions, and would lend vast interest to the final discussion. The greatest value of papers is not in the papers so much as in the discussion that follows (if it does follow) in which one gets a glimpse into the moving events of the life of the profession. To such a discussion would be brought ripe ideas already partly thrashed out and ready for the mill. If only one subject were so discussed, and it an important one, it would be of great value.

With such an arrangement, the president of the A. O. A. would become a national leader of the greatest importance, and would have power to promote thought throughout the whole nation. Let nine important topics be selected, one for each month, except the summer months, or nine subjects for the gathering of observations and statistics, and the result would undoubtedly be of the greatest magnitude.

ERNEST E. TUCKER, D. O.
NEW YORK CITY.

Medical Inspection of Schools

It has seemed to me that osteopathic physicians, literature and organizations, should not confine themselves to osteopathic subjects, to the exclusion of matters of general health and of public hygiene and sanitation that should be of interest to all. Therefore, I have ventured to bring to the notice of readers of the JOURNAL OF THE A. O. A., a movement of national importance and one directly affecting all who have children in the schools,—I refer to Medical Inspection of Schools.

In most European countries and in Japan, it is a movement, national in scope, the beginnings of the work being as far back as 1833, in France. In our own United States, it has only been of recent growth. Boston, in 1894, was the first city to institute medical inspection, and in 1906, Massachusetts adopted a mandatory law. The movement has since spread very rapidly until one hundred cities outside of Massachusetts have medical inspection. In every case, opposition has died out shortly after the system has been instituted. Thus it has passed the period of infancy and experimentation and is permanently established.

Of course the methods vary as widely as do the conditions which must be met in the different cities, but all look (1) to the early discovery and control of infectious diseases (including tuberculosis, lice and skin diseases), thus preventing or aborting epidemics, and (2) to the discovery of physical defects in the individual child. It has been found that cases of infectious diseases are recognized and separated comparatively early, when there is a physician of the school, to whom the teacher can send any child who does not appear well. Also, children are prevented from returning to school too soon or coming at all for the period of incubation after exposure to any disease. This prevention or abortion of epidemics is in itself of sufficient good to prove the necessity of medical inspection. But even greater good is gained from the physical examination of the individual child and the "discovery" of physical defects (for it is a fact proven again and again that not one time in a hundred is the family aware of the trouble). A surprising number of children are found to have defective eyesight or hearing, enlarged tonsils, adenoids, swollen glands, carious teeth, or malnutrition. It is claimed by the Russel Sage Commission that fifty per cent. or more children have

physical defects which interfere with their progress in school or will interfere if not removed.

Indeed, it is the settled opinion of the investigators that a very large share of the inefficiency and mental backwardness of children is due to either insufficient nourishment or to preventable or removable defects. It naturally follows that if the removal of the defect will materially increase the efficiency of the child, it will be profitable to the state to do it. But medical inspection does *not* include the removal of defects; only the discovery of the same and the notification to the parents and teachers. The examiner *never* treats. If it is necessary for other than the parents to remove the defect, the case is turned over to the Board of Health or Associated Charities.

The state has compulsory education justified by the necessity for her own preservation and upward growth. But if she allows a child while at school to be physically injured through the effect of some remediable or preventable defect, she is criminally negligent to her citizens and is laying the foundation for her own deterioration and downfall. If the state may and does enforce mental training, she may and should commend examination to ensure physical soundness and capacity. The two are inseparable.

Medical inspection should not be apart from, but a very important part of the routine life of the schools. In addition to the physical examination, the child receives expert advice, suited to him individually, as to what he should and should not do, to obtain the best development, advice which is invaluable to the growing boy and girl. The school physician sees that the desks are fitted to the child, instead of the child being fitted to the desk as is usually the case. Hence spinal curvatures due to desk postures are avoided. He sees that buildings and grounds are kept in a sanitary condition. He gives lectures to the parents on hygiene and sanitation, and talks to the children along the same lines in language they can understand and appreciate. Here is afforded an admirable opportunity to teach both parents and children the methods for prevention of tuberculosis, general cleanliness and so forth.

There has been no attempt to give details in this paper, but merely a general introduction to the subject hoping that osteopathic physicians in all parts of the country will investigate and then work for the adoption of medical inspection in their community. Being essentially a prophylactic measure, it should appeal especially to an osteopath.

Medical inspection is going to come in all our states and laws will be passed regulating or enforcing the system. A word of warning is necessary here. It behooves us to look carefully after legislation along this line, lest D. O.'s be excluded from being examining physicians. Aside from the fact that it would be interesting and congenial work for many osteopaths, their exclusion is a reflection upon the standing of osteopathy.

In California, for instance, the law reads that a certificate may be given only to those who have a license "to practice medicine and surgery." A letter was written to the Secretary of the State Board of Education, asking the interpretation of the law. He replied that the point *had not been brought up before;* that technically an osteopath would certainly have to be excluded, but that as M. D.'s and D. O.'s now took exactly the same examination, it was evidently unjust. If a statement of the case were sent to the Board, he thought they would be glad to consider it and introduce an amendment to the next session of the legislature, looking to the correction of this injustice. It is to be hoped that such an amendment may be passed in California and that such a watchful eye may be kept over legislation in other states that no similar clause can be enacted, without at least strong opposition from the osteopaths.

As public spirited physicians, let us get out of our shell and work for the good of the little ones, through the introduction of medical inspection of schools.

HELEN H. SHELLEY, A. B., D. O.
EUREKA, CAL.

State and Local Societies

MISSISSIPPI VALLEY AND MISSOURI

Proclamation, calling the annual convention of the Missouri Osteopathic Association and Mississippi Valley Osteopathic Association to convene at Kirksville, Mo., on June 2, 3 and 4, 1910. We offer the following joint programme:

9 to 12, Open Parliament, Dr. A. G. Hildreth, St. Louis, Mo., Director. Subject: Chronic Diseases and Deformities, viz: (1) Rheumatism, (2) Neuralgia, (3) Goitre, (4) Hip Joint Disease, (5) Spinal Meningitis, (6) Insomnia, etc.

9 to 12, Open Parliament. Subject: Acute Infections Diseases, Dr. George Laughlin, Kirksville, Mo.

9 to 12, Open Parliament. Dr. U. S. Hibbetts, Grinnell, Ia., Director. Subject: The Respiratory Tract, viz: (1) Tonsilitis, (2) Diphtheria, (3) Croup, (4) Pneumonia, (5) Bronchitis, (6) Pleurisy, etc.

2 to 5 P. M. Lectures by Dr. George Still, and Dr. William Smith, Kirksville, Mo. Subject: Minor Surgery and First Aid to the Injured; Dr. George Still. Emergencies of the Lying in Chamber, Dr. William Smith, Kirksville, Mo.

2 to 5 P. M. Open Parliament. Dr. H. K. Benneson, Clay Center, Kans., Director. Subject: Alimentary Tract and Abdomen, viz: (1) Indigestion, (2) Constipation, (3) Gall-Stones, (4) Malaria, (5) Typhoid, (6) Flux, etc.

2 to 5 P. M. Open Parliament. Dr. Ella D. Still, Kansas City, Director. Subject; The Pelvis, viz: (1) Menstrual irregularities, (2) Versions, (3) Flexions, (4) Headaches, etc.

It is the intention of the Committee on Programme to have a purely professional programme; to discuss professional subjects from actual practice. No long tedious papers copied from old medical books will be in order. What we want to know is: "How to cure sick people by osteopathic methods and from your own actual experience," and not how the books say cure them. What do you care to sit and listen to me tell how to cure spinal meningitis when I never saw a case, much less cured one. But you would sit up all night listening to some one tell how to cure it that had treated and cured case after case. The latter kind of talks are the ones we want to hear.

Now let every osteopath who can attend this meeting volunteer to discuss one or two subjects under each division—those in which he has had the greatest success. Be as willing to give as to receive.

Let those having M. D. degrees to confer, adjuncts to exploit, advice on advertising, and instructions on price of treatment, leave them all on ice at home as we won't have time to discuss them at Kirksville.

The three evening sessions have been left open for any special subject that may come up, or to listen to some distinguished guest we may have with us.

Osteopaths, not now members, who wish to join the Association will please send their names to the undersigned.

All osteopaths are cordially invited to attend and join in the discussions.

E. E. HOLBERT, Prest. M. O. A.
W. J. CONNER, Prest. M. V. O. A.

NEW ENGLAND SOCIETY

The regular meeting of this body will be in Springfield, Mass., May 20-21. Great care is being used in preparation of program and a fine meeting is assured. Program in next issue.

INDIANA

Semi-annual meeting of Indiana Osteopathic Society will be held in Indianapolis, May 7-10. A splendid program has been arranged: President's address, K. T. Vyverberg, Lafayette; Dysmenorrhoea, Lydia Cooper, Warsaw; Pellagra, W S. Thompson, Terra Haute; Conjunctivitis, J. F. Spaunhurst, Indianapolis; Philosophy of Osteopathic Treatment, M. E. Clark, Indianapolis; General Discussion, Case Reports, Question Box, etc,

M. E. CLARK, D. O., Sec'y.

LOUISIANA

The regular meeting of the Louisiana Osteopathic Association met in New Orleans April 2, in office of C. E. Hewes. Papers were read and discussed by Drs. Hewes, Conner, Mayronne, Mackey, Tete, McKeehan and others.

The election resulted in the choice of Paul Geddes, of Shreveport, president; Wesley Mackie, of New Orleans, vice-president; Henry Tete, of New Orleans, secretary and treasurer.

Reports indicated the growth of osteopathy in the state. Dr. Conner, who retired from the presidency, and Dr. Hewes, the retiring secretary, were given a vote of thanks for efficient services. Several telegrams were read from members throughout the state expressing regret at not being able to attend the meeting.

After the meeting the physicians went to a near-by restaurant, where a banquet was enjoyed.—(*Press Dispatch.*)

NEW YORK

The meeting of the Society for the City of Greater New York, for April, was held April 16, at Waldorf-Astoria. Program consisted of following papers: "Harvey — — Still," H. E. Hjardemaal; "Splanchnic Neurasthenia," Clarke F. Fletcher; "Our Limitations," J. A. DeTienne. Officers were nominated for the coming year to be voted upon at the next monthly meeting.

WASHINGTON

Washington State Osteopathic Association met in Tacoma April 2, and reelected the following officers: President, J. Clinton McFadden, Seattle; first vice-president, T. C. Morris, Spokane; second vice-president, L. H. Walker, Ellensburg; treasurer, Ida M. Jayne Webber, Seattle; secretary, W. T. Thomas, Tacoma. The association has now a membership of 100.

DETROIT

Regular meeting Detroit Osteopathic Society met March 14. Paper: "Treatment of Neurasthenia," was read by Edythe F. Ashmore, and discussed by George B. Clark.

REBECCA B. MAYERS, D. O., Sec'y.

TEXAS

The annual meeting of the Texas Osteopathic Association will be held in Cleburne, May 6-7. An interesting program has been arranged. All practitioners are invited.

A. D RAY, for Local Committee.

UTAH

The Utah State Osteopathic Association met in Salt Lake City March 18, with Dr. Grace Stratton. Important questions to the profession's advancement were discussed, and officers were elected: President, Mary Gamble, Salt Lake City; Vice-President, F. Austin Kerr, Provo; Secretary, Harry Phillips, Salt Lake City; Treasurer, M. McDowell, Salt Lake City.

IOWA

Semi-annual session of the Seventh Iowa District met in Marshalltown, March 16, when the following program was carried out:

"Dorsal Lesions," F. P. St. Clair, Toledo; "Diseases Resulting from Dorsal Lesions," C. M. Proctor, Ames; demonstration of correcting dorsal lesions, Delia B. Caldwell, Des Moines; "Lumbar Lesions," E. Paul Erwin, Perry; "Diseases Resulting from Lumbar Lesions," T. P. Weir, Winterset; demonstration of correction of lumbar lesions, Jessie L. Catlow, Boone; "Sacral Lesions," Guy C. Trimble, Montezuma; "Diseases Resulting from Sacral Lesions," C. F. Spring, Des Moines; demonstration of correction of sacral lesions, G. W. Graham, Brooklyn.

MAINE

Quarterly meeting of the Maine Osteopathic Association was held with Dr. Brown, Waterville, March 26. Frank M. Vaughn, of Boston, lectured on "Anaemia," and showed microscopic slides of blood changes. Mayme K. Tuttle reported "Obstetrical Case"; W. Clare Brown demonstrated use of Catheter, following which clinics were held.

Following dinner, George H. Tuttle demonstrated reduction of shoulder dislocation; Dr. Vaughn lectured on Toxicology, and Open Parliament was held before adjournment. A full attendance of the Maine profession was present.

MAYME K. TUTTLE, D. O., Sec'y.

Short News Notes

DEATH OF DR. MUNROE

Death came suddenly to Dr. Laura Leadbetter Munroe at her home in East Orange, N. J., April 13. Dr. Munroe was a graduate of the Atlantic College and had practiced in East Orange for six or seven years. She was a well equipped, enthusiastic and most successful osteopath. Her early death is a severe blow to her husband and a great loss to the profession.

RESOLUTIONS ON DEATH OF DR. HOWE

Whereas, The osteopathic profession has suffered the loss by death of one of its members, Dr. Alice Elliott Howe;

Resolved, That we realize that our profession has lost a valuable member one who was held in high esteem by the profession, known as a faithful and conscientious student and as a successful practitioner and one who was loved by all who knew her;

Resolved, That we tender our heartfelt sympathy to her sisters, Dr. Viola D. Howe and Mrs. Fred T. Thorne;

Resolved, That we send a copy of these resolutions to the sisters, to the JOURNAL, and to the American Osteopathic Association.

MAYME K. TUTTLE, D. O.,
SOPHRONIA T. ROSEBROOK, D. O.,
MARY W. DAY, D. O.,
Committee.

DEATH OF DR. PETERSON

Dr. E. Antonne Peterson, one of the first and best known practitioners of the Northwest, died at his home in Seattle, March 21. Dr. Peterson was a graduate of the Northern Institute of Osteopathy in the Class of 1897, and had been a successful practitioner since.

THE MONTANA BOARD

The Montana Board of Osteopathic Examiners met March 1, and licensed three applicants. Officers for the year are: President, Asa Willard, Missoula; Secretary, L. K. Cramb, Butte; Treasurer, W. C. Dawes, Bozeman.

DR. GILTNER REAPPOINTED

Governor Vessey, of South Dakota, has reappointed Dr. E. E. Giltner, of Redfield, to succeed himself as a member of the osteopathic examining board of the state.

NEW MEMBER OF MICHIGAN BOARD

Governor Warner, of Michigan, has appointed Dr. Clara Classen, of South Haven, a member of the State Board of Osteopathic Examiners.

DR. HEWITT RECOVERED

Dr. A. M. Hewitt, Redlands, Cal., has just recovered from a severe attack of typhoid fever. Three of his family were down with the same disease at the same time. All are improved now, however.

DR. HENDERSON'S APPEAL

On March 23, Judge Morson, sitting as an appellate judge in Toronto, quashed the judgment found in the police court of that city, against Dr. R. B. Henderson. The decision of the court was held over until the adjournment of the legislature to see if an act was passed defining the practice of osteopathy. The legislature taking no action on the osteopathic measure, the court decided on the opinion of Justice McMahon, that as contemplated by the law, "the practice of medicine entailed the giving of drugs for curing or mitigating disease."

"There appears to be no case holding that medicine can be practised without the use of medicine," says Judge Morson.

"There was no medicine administered in this case. If the Ontario Medical Council desire the meaning of the word medicine extended to cover the present case, they must apply to the Legislature."

DR. ATKIN OPERATES ON HIP DISLOCATION

On February 25, at Good Samaritan Hospital, Portland, Oregon, Dr. Otis F. Akin operated on a case of congenital hip malformation in a girl of five years, by the manipulative method and secured a successful reduction. Oregon is one of the fortunate states in having an osteopathic surgeon and one of whom the osteopathic physicians of the northwest are proud.

OSTEOPATHY IN PARIS

Drs. E. C. and Annette White, for a number of years of Watertown, N. Y., are succeeding well in Paris. Dr. White writes that there are not enough Americans for them to depend on so they must work up their French and depend on the natives. He says that they have a number of the French now among their clientele and he feels that they will take to osteopathy even better than the Americans do. Their offices are 11 rue d' Astorg, Paris.

Dr. White promises to review French medical literature for us, as Dr. Moellering will do the German literature.

CHICAGO PAPER ON OSTEOPATHY

The *Inter-Ocean*, one of the strong papers of Chicago, has been printing for several weeks a series of educative articles on osteopathy. The articles seem to be well written and are covering the scientific aspect of the subject in a popular way. Of course they are impersonal, that is to say, no practitioners are mentioned.

RIGHTS OF OSTEOPATHS IN COLORADO

A suit now pending in Colorado will doubtless test the standing of the osteopathic practitioners before the law in that state. Drs. J. L. and T. C. Cramb, of Denver, brought suit against one Allen Stone for professional services rendered his wife and daughter, and Stone has filled a counter claim against the osteopaths for $1,999 for the death of his wife, September, 1904. He claims he supposed that the Drs. Cramb were regularly licensed physicians, and disputes their claim on this ground; he further claims that the treatment hastened death, hence his suit for damages. His suit of course amounts to nothing, but theirs will be of much interest. The Medical Board of the state are back of the fight by Stone.

MAY DELINEATOR AND DR. STILL

Following up the introduction of Dr. Still into her charming serial "The Power and the Glory," closing with the April number of the *Delineator*, Grace McGowan Cooke prints in the May *Delineator* a splendid story of "The Old Doctor." This should be on the reading table of every practitioner. If the news stands can't supply you, order of the publishers at once, Butterick Bld., New York.

POSITION WANTED

A woman osteopath registered in Missouri, would like a position as assistant or have charge of a practice during summer. Address: OSTEOPATH, 908 Paseo, Kansas City, Mo.

DR. C. C. REID UNDER THE KNIFE

Dr. Charles C Reid, of Denver, is recovering from an operation for appendicitis, recently performed, in which stovaine was the anesthetic used

ENTERTAINS DR. M'CONNELL

During Dr. McConnell's stay in New York, Dr. and Mrs. Charles F. Bandell gave a delightful dinner party in his honor at their Brooklyn home, to which about thirty of his close friends were guests

HEARINGS BEFORE LEGISLATURES

Several important legislative hearings have been recently held. In New Jersey the Senate Committee gave a hearing March 22, and the osteopaths were represented by Drs. D. Webb Granberry, president of the state organization, and Ralph H. Williams, of Rochester, member of State Board of Examiners for New York. Robert McCarter, one of the best attorneys of the state, also appeared.

Drs. Granberry and Williams also represented the profession at the hearing given by the governor April 11, on both of which occasions they made telling addresses for the Osteopathic Board principle.

In Providence, on March 24, Dr. Charles C. Teall appeared for the osteopathic measure. By making use of some blunders made by the M. D. speakers, he soon had the spectators with him, and made a strong presentation of the osteopathic side of the issue. The papers of the state give a good account of the hearings.

J. R. SHACKLEFORD RETURNS TO NASHVILLE

The *Nashville Banner*, of March 28, has the following news item, interesting to many osteopaths:

"Back to his first love in the capital city of Tennessee, after an absence of some years in the West, Dr. J. R. Shackleford has returned to make this city his future home, and the future place of practicing his profession. Dr. Shackleford, a graduate of the Kirksville School of Osteopathy under Dr. A. T. Still, was the first osteopath to practice in the State of Tennessee, locating in Nashville some ten years ago or more. Some two years or more ago he resigned the presidency of the first State Osteopathic Board, to which he was appointed by Governor Patterson, and went West on account of the health of his wife. Dr. Shackleford had many personal and business friends in this city, and these will be pleased to learn that he will again be in Nashville. He expects to open up his offices about April 1."

APPLICATIONS FOR MEMBERSHIP

Abbott, Hester L. (Cc)—653 W. 17th St., Los Angeles, Cal.

Ackley, Chayncey W. (Mc)—108 Auditorium Bld., Chicago, Ill.

Bennett, Chas. (N)—Whittier, Cal.

Bernard, Roy (A)—1007 Trude Bld., Chicago, Ill.

Burns, Marion L. (P)—721 Mound Ave., South Pasadena, Cal.

Cady, Darwin F. (A)—S. Warren St., Syracuse, N. Y.

Case, Chauncey R. (Ac)—Chambers-Stewart Bld., Mt. Clemens, Mich.

Clarke, Geo. Burt F. (A)—1-2-3-4 University Bld., Detroit, Mich.

Clements, Gertrude M. (A)—Chansloe Bld., Amarillo, Texas.

Clements, Kibby J. (A)—Chansloe Bld., Amarillo, Texas.

Comstock, Caroline V. (Ph)—326 Mint Arcade, Philadelphia, Pa.

Conner, Arthur B., 1008 Trude Bld., Chicago, Ill.

Chase, John P. (A)—611 Wilder Bld., Rochester, N. Y.

Crane, Ralph M. (SS)—381 5th Ave., New York.

Crawford, W. A. (N)—928 Main St., Buffalo, N. Y.

Dana, Frances (SS)—304 Trude Bld., Chicago, Ill.

Dawson, Minnie (A)—303 Stevens Bld., Detroit, Mich.

Davenport, Frederick S. (At)97 Champlain St., Rochester, N. Y.

Earhart, Eugene M. (SS)—222 W. 8th St., Erie, Pa.

Farnham, James McKay (A)—St. Cloud, Minn.

Fechtig, Louis R. (A)—40 E. 26th St., New York, N. Y.

Fisher, Charles S. (A)—1208 Majestic Bld., Milwaukee, Wis.

Forquer, James W. (A)—603 Osborn Bld., Cleveland, O.

Gillespie, Harriet M. (Cc)—1800 Buchanan St., San Francisco, Cal.

Groenewoud, J. C. (A)—1339 E. 47th St., Chicago, Ill.

Hawes, Leon B. (A)—Kenawee Savings Bank Bld., Adrian, Mich.

Herbst, Edward G. (A)—515 Elmwood Ave., Buffalo, N. Y.

Herman, Arthur M. (A)—611-12 Osborn Bld., Cleveland, O.

Heyer, Ferdinand C. (A)—42819 Ohio Bld., Toledo, O.

Hubbell, Preston R. (LA)—200 W. 1st St., Flint, Mich.

Kimbley, Howard G. (LA)—201-2 Conklin Bld., Grants Pass, Ore.

Kinney, Kenneth F. (Ac)—Clarion Bld., Lapeer, Mich.

Kilts, Wm. H. (A)—16 S. Gratiot St., Mt. Clemens, Mich.

Kottler, A. P. (SS)—67 Wabash Ave., Chicago, Ill.

Liffring, Edward A. (SS)—642 Nicholas Bld., Toledo, O.

Lincoln, Fred C. (A)—750 Ellicott Square, Buffalo, N. Y.

Lord, Mary Warren (Mc)—61 Fourth St., Troy, N. Y.

McGavock, Anne H. (A)—894 Woodward Ave., Detriot, Mich.

eMyer, Richard L. (Cc)—West Bank Bld., San Francisco, Cal.

Mills, David A. (A)—Savings Bank Bld., Alpena, Mich.

Moomaw, Kenton B. (A)—228 W. Main St., Waynesboro, Pa.

Murphy, E. C. (A)—27-28 Ingram Bld., Eau Claire, Wis.

Neame, Josephine G. (P)—712 N. Court St., Visalia, Cal.

Ness, W. F. (Bn)—241 W. Utica St., Buffalo, N. Y.

Parish, Chester W. (LA)—304 Matthews Bld., Milwaukee, Wis.

Richardson, Chas. Leroy (A)—612 Euclid Ave., Cleveland, O.

Seelye, E. A. (S)—300-3 Prudden, Bld. Lansing, Mich.

Slater, Wm. F. (Ac)—204 Trude Bld, Chicago, Ill.

Stearns, Maus W. (A)—226 State St., Schenectady, N. Y.

Stewart, Carrie B. Taylor (A)—421 Stevens Bld., Detroit, Mich.

Symmonds, Wesley E. (A)—227½ N. Washington Ave., Lansing, Mich.

Thayer, Helen E. (A)—608 Granite Bld., Rochester, N. Y.

Thompson, Emma Wing (SS)—727 Brandywine Ave., Schenectady, N. Y.

Thompson, Garrett E. (A)—Elmwood, Ill.

Thompson, J. A. (A)—105 Colonial Arcade, Cleveland, O.

Tiffany, E. W. (At)—311 Rosenbloom Bld., Syracuse, N. Y.

Wakeham, Jessie A. (A)—1084 Wilson Ave., Chicago, Ill.

Watkins, Edwin Phillips (P)—319-20 Union Bld., San Diego, Cal.

Williams, C. Arthur (LA)—41 W. Chicago St., Coldwater, Mich.

Williams, C. Ernest (SC)—105 Paterson Bld., Flint, Mich.

Weegar, Percy L. (A)—1721 Main St., Buffalo, N. Y.

Whittemore, Marion (At)—302 Hudson St., Buffalo, N. Y.

Wiley, Andrew S. (A)—411 Brisbane Bld., Buffalo, N. Y.

Wilkins, Zeo Zoe (A)—Chansler Bld., Amarillo, Texas.

Bright, S. H. (A)—Paul Gale Greenwood Bld., Norfolk, Va.

Fischer, A. E. (Ph)—277 Gates Ave., Brooklyn, N. Y.

Page, G. Ralph (SS)—147 Hancock St., Brooklyn, N. Y.

Tebeau, A. C. (Ph)—Rocky Mount, N. C.

Ewing, Mary Matthews (A)—507 Power Blk., Helena, Mont.

CHANGES OF LOCATION

J. W. Blackmer from Wilmington to Lumberton, N. C.

. R. Byars from Kuhn Bld., to 306-8 Granger Bld., San Diego, Cal.

Anna Hadley from Westminster St., to 62 Montague St., Brooklyn, N. Y.

A. M. Hewitt from 122 Cajon St., to 2-3-4 Fisher Bld., Redlands, Cal.

Harriet E. Hinds from San Francisco to Alta Vista Apts., Berkeley, Cal.

Annie McCaslin from New Castle to 908 Center St., Wilkinsburg, Pa.

J. Leroy Near from Alta Vista Apts. to 2251 Telegraph Ave., Berkeley, Cal.

L. H. Noordhoff from 153 to 187 Main St., Oshkosh, Wis.

Oliver Van Duyne from Boston to 45 Waverley Ave., Newton, Mass.

G. M. Whibley from Grand Forks, N. D., to 684 Congress St., Portland, Me.

Grace G. Wilson from Unionville,Mo., to 1132 N. Oakes St., Tacoma, Wash.

B. L. Cole from Frisco Bld., to 4938 McPherson St., St. Cloud, Mo.

Wm. M. Smilley has an office at 90 Spring St., Saratoga Springs, in connection with his practice in Albany, N. Y.

Clara DeGress McKinney is now located in Fourth National Bank Bld., Cincinnati, O.

Mary H. Walters and Frances A. Howe are now located at 1211 Mora Villa Ave. , Santa Barbara, Cal.